

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

In re: Methyl Tertiary Butyl Ether ("MTBE")
Products Liability Litigation

**MDL No. 1358
Master File C.A. No.
1:00-1898 (SAS)**

This document relates to the following case:
Orange County Water District v. Unocal, et al.,
Case No. 04 Civ. 4968

**DECLARATION OF BRYAN BARNHART
IN SUPPORT OF
PLAINTIFF ORANGE COUNTY WATER DISTRICT'S
OPPOSITION TO
BP AND SHELL DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT BASED ON *RES JUDICATA***

I, Bryan Barnhart, declare:

1. I am an attorney at Miller & Axline, attorneys of record for Plaintiff Orange County Water District. I have personal knowledge of the facts herinafter set forth and if called as a witness I could and would testify competently to the following.

2. On Monday, July 14, 2014, I called the offices of Sedgwick LLP, counsel of record for the Shell Defendants, to ask for a full and complete copy of the hearing transcript that is Exhibit F to the Declaration of Peter Condrón in support of the instant Motion. At 12:03 on that day, I received an email from a Sedgwick paralegal that read: "Per your request, attached is a full and complete copy of Exhibit F to the Declaration of Peter Condrón in Support of BP and the Shell Defendants' Motion for Summary Judgment." **Exhibit 1** to this Declaration is a true and correct copy of the relevant pages from the attachment to that email.

3. **Exhibit 2** to this Declaration is a true and correct copy of the first 15 of the relevant pages from the Direct Testimony of Craig D. Miller, P.E., On Behalf of Orange County Water District for Water Rights Application 31174, produced in this action as OCWD-MTBE-001-199678 through OCWD-MTBE-001-199708. This document provides a useful summary of the Orange County Water District's water rights and water projects from its formation up to May of 2007.

4. **Exhibit 3** to this Declaration is a true and correct copy of the second 15 of the relevant pages from the Direct Testimony of Craig D. Miller, P.E., On Behalf of Orange County Water District for Water Rights Application 31174, produced in this action as OCWD-MTBE-001-199678 through OCWD-MTBE-001-199708. This document provides a comprehensive history of the Orange County Water District's water rights and water projects from its formation up to May of 2007.

5. **Exhibit 4** to this Declaration is true and correct copies of relevant pages from the August 25, 2010 deposition of Tim Sovich. During that deposition, Mr. Sovich responded to all of defense counsel's questions regarding the District's Groundwater Replenishment System, a wastewater-recycling program that produces up to 70,000,000 gallons of groundwater-recharge water per day. Section 1210 of California's Water Code grants to the District senior rights to all water that the Groundwater Replenishment System produces. The District also has a State Board permit which protects its rights to Groundwater Replenishment System water.

6. **Exhibit 5** to this Declaration is true and correct copies of relevant pages from the December 2, 2008 deposition of Roy Herndon. Mr. Herndon discussed the District's application to California's State Water Resources Control Board for the water-rights permit that eventually issued as Permit 21243. After Mr. Herndon's deposition, the State Board issued Permit 21243, a true and correct copy of the relevant pages of which is included in **Exhibit 5**. Permit 21243 entitles the District to divert up to 362,000 acre-feet of water per year from the Santa Ana River, and it entitles the District to use that water for any municipal, industrial, or recreational use, or for fish and wildlife preservation and enhancement. The District uses its Permit 21243 water to recharge the Orange County Groundwater Basin.

7. **Exhibit 6** to this Declaration is true and correct copies the relevant pages from the District's Third Amended Complaint and from the Thrifty Settlement that Defendants omitted from the copies that they provide to the Court.

8. **Exhibit 7** to this Declaration is a true and correct copy of the relevant pages from Defendants' January 23, 2006, Memorandum of Law in Support of Motion for Summary Judgment of Plaintiff's Claims Based on Plaintiff's Lack of Cognizable Interest.

9. **Exhibit 8** to this Declaration is a true and correct copy of the relevant pages from

the Expert Report of Stephen W. Wheatcraft, Ph.D. in this action.

10. **Exhibit 9** to this Declaration is true and correct copies of the relevant pages from the Minutes of Regular Meeting of the Board of Directors of the Orange County Water District for March 23, 2005.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 19th day of July, 2014, at Sacramento, California.


BRYAN BARNHART

EXHIBIT 1

DO NOT DUPLICATE - PURSUANT TO GOVERNMENT CODE 69954 (d)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF ORANGE, COMPLEX JUSTICE CENTER
DEPARTMENT CX104

THE PEOPLE OF THE
STATE OF CALIFORNIA,

Plaintiff,

VS.

SHELL OIL COMPANY, *etc., et al.,*
Defendants.

ORIGINAL

No. 804031

HONORABLE DAVID C. VELASQUEZ, JUDGE PRESIDING
REPORTER'S TRANSCRIPT
JANUARY 5, 2005

(Appearances on the following page:)

1 **SANTA ANA, CALIFORNIA - WEDNESDAY, JANUARY 5, 2005**
2 **AFTERNOON SESSION**

3 (The following proceedings were
4 had in open court:)

5 **THE COURT:** All right. Good afternoon. On the
6 record. The record should reflect we are in open court
7 on the matter continued from this morning, People of
8 the State of California versus Shell Oil.

9 Counsel are again present. Mr. Miller is
10 present.

11 Mr. Miller, did you have an opportunity to
12 review the proposed settlement agreement essentially?

13 **MR. MILLER:** Yes, I have, Your Honor.

14 Based on my review of the document, we're
15 requesting some time from the Court to brief a petition
16 to intervene and to explain our concerns. There's
17 precedent for that, including *People versus Superior*
18 *Court of Ventura County*, 17 Cal.3d 732.

19 Basically that was a case in which the District
20 Attorney brought an action concerning fraudulent oil
21 drilling contracts and, as part of the relief sought,
22 sought restitution for investors. And there were other
23 pending civil Complaints on behalf of the investors
24 which, of course, also sought restitution.

25 And basically the legal principles involved,
26 including *Code of Civil Procedure* Section 387, provide

1 that a person who has an interest in a -- in the
2 litigation of where the success or outcome of that
3 litigation may adversely affect their interests, has a
4 right to intervene at any time.

5 And the code provision I cited contains the
6 legal standards for determining whether to permit a
7 party to intervene.

8 If counsel for Shell and related entities that
9 are part of this agreement will represent on the record
10 that the proposed settlement and final judgment have no
11 effect on the interests of my client, the Orange County
12 Water District, we have no interest in or need to
13 intervene. But as long as he retains the potential
14 right to make that claim, that there is some overlap
15 between the action the District Attorney is prosecuting
16 and the action my office is prosecuting on behalf of
17 the District, and as long as he retains the right to
18 claim that any settlement or judgment in this case is
19 the last and final determination of any such
20 overlapping claims, then we're virtually forced to
21 intervene.

22 I can tell the Court, just to give you an
23 example of both the importance to the District of the
24 terms of this settlement and the need to brief the
25 issues for the Court's consideration, so that in
26 exercising its discretion both to evaluate our right to

1 intervene and to decide whether or not to approve any
2 settlement or judgment, basically the Orange County
3 Water District has, by virtue of the *Water Code*
4 appendix 40-8 et seq., plenary authority in the
5 northern portion of Orange County within the District
6 boundaries to deal with pollution of the aquifer and
7 potential public drinking water supplies.

8 This settlement, if adopted, in one proposed
9 provision says that the defendant's obligation to clean
10 up contamination is subject to a five-year limit.

11 We have good reason to believe, from
12 consultation with experts and my firm's experience in
13 other similar litigation involving the same chemical,
14 that it is physically impossible to clean up the
15 hundreds of plumes that are present in the Orange
16 County Water -- in the service area -- in the District
17 service area within five years. It just cannot be
18 done.

19 And if anyone took the position that this is
20 the opportunity -- only opportunity public interests
21 have to assure that that cleanup occurs, it would be
22 extremely prejudicial to my client and as to 10 million
23 plus people in their service area.

24 So what we're asking for is an opportunity to
25 submit a brief and/or a motion in intervention by the
26 19th. We would have proposed to submit it by next

1 week; but counsel responsible for this case in my firm
2 are committed to be in New York and Chicago on various
3 legal matters most of that week, and so it's
4 unfortunately impossible; and we would be prepared to
5 attend a court hearing as soon as Shell had a -- and/or
6 the District Attorney's office had an opportunity to
7 respond anytime thereafter.

8 So we are not requesting any lengthy delay, but
9 we do want to have an opportunity to explain to the
10 Court our position in this matter and to protect our
11 client's rights. It's important to keep in mind that
12 up to the time this Court thankfully provided us with a
13 copy of the proposed final judgment and settlement,
14 both my office and my client had been totally kept out
15 of any communication concerning settlement of this
16 case, any participation in discussions concerning
17 settlement or resolution of this case, and were not
18 given a copy of any proposed settlement or judgment; so
19 that we were completely incapable of -- until that
20 point in time of even discerning what was going on; and
21 we recognize the importance of settlement of this or
22 any other case and in the past had in similar
23 litigation by the District Attorney's office.

24 We did not become involved in any way in the
25 fashion that we're discussing now because the
26 settlement expressly provided with Atlantic Richfield

1 that it would not have an effect on our claims and
2 rights. And this particular --

3 **THE COURT:** Which lawsuit was that?

4 **MR. MILLER:** A lawsuit by the People of the State
5 of California brought by the Orange County district
6 attorney's association. And the defendant in that
7 action was principally the Atlantic Richfield Company
8 and related defendants.

9 **THE COURT:** So that's not the case in which your
10 client is involved in Federal Court? It's a third
11 action?

12 **MR. MILLER:** It's a third action.

13 **THE COURT:** All right.

14 **MR. MILLER:** And my point is we do not take lightly
15 requests to intervene or objecting to settlements.
16 That's why I was grateful to have an opportunity to, at
17 least, read it before I made the decision I did to
18 recommend to my client to proceed as I have described.

19 We have not had an opportunity to do full
20 meaningful legal research on this, so I'm not
21 suggesting that the grounds I've stated are the only
22 ones we would later potentially brief or assert.

23 **THE COURT:** What's the People's position?

24 **MR. D'AGOSTINO:** Your Honor, the People -- the
25 District Attorney signed the judgment today based on
26 the belief that that settlement is fair and is in the

1 entirely inappropriate, as I say, at the 12th hour, in
2 essence, for Mr. Miller to come in and, I guess, seek
3 sort of an advisory opinion from you about the effect
4 of this settlement on that lawsuit.

5 I submit, Your Honor, that what Mr. Miller is
6 trying to do at the 12th hour is to, in effect, go
7 around the back door of the MDL, to circumvent the MDL
8 proceeding, to try to avoid the fact that his lawsuit
9 is now back in the Southern District of New York, and
10 to circumvent the authority of Judge Shinlin.

11 So I join with the District Attorney's office
12 and the People and ask you to enter the settlement
13 forthwith and leave to another day for Judge Shinlin
14 the issue of what effect, if any, this settlement may
15 have on the Orange County Water District litigation.

16 **THE COURT:** The Court -- I have a question,
17 Mr. Miller. The Court has not heard a request for this
18 Court to make any findings, whether advisory or
19 otherwise.

20 What I thought I heard was a request of the
21 parties to make certain concessions, if the Court were
22 to move forward on the proposed settlement or, by
23 inference, I guess, Mr. Miller, you're suggesting that
24 that's not forthcoming, meaning a stipulation and
25 concession by the parties, some sort of continuance or
26 stay of today's proceedings.

1 you the shorthand version -- any polluter within its
2 service area.

3 In addition to that, we have common-law claims
4 for trespass, nuisance, products liability, and other
5 common-law theories.

6 Now, I understand the District Attorney pled in
7 the First Amended Complaint public nuisance but, with
8 that exception, there's no crossover in the claims as
9 opposed to other aspects of the pleading.

10 To the extent that the District Attorney
11 proceeded with his claim using his authority, virtually
12 most of what he is doing, there's no overlap between
13 his claim and mine; but the settlement purports to go
14 broader than that, if you read it the way I believe
15 Mr. Temko is reading it.

16 So there is a disconnect between the way the
17 case was filed and prosecuted and what I'm seeing in
18 the final judgment.

19 **THE COURT:** All right. Mr. D'Agostino, did you
20 take that into consideration in your negotiations with
21 the defendant?

22 **MR. D'AGOSTINO:** Your Honor, as the Court has read
23 in a document, the relief that is being sought here is
24 all statutorily based. The key component is the
25 injunctive relief, which Mr. Miller has indicated, as
26 we have limited powers to seek injunctive relief, and

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1 we have statutory rights to seek injunctive relief. We
2 have, under that statutory right, simply put in the
3 statutory obligation we have to pursue that injunctive
4 relief. They're asking to Court to sign off on that.

5 In essence, we agree with Mr. Miller; that we
6 don't believe we're in privity with the Water District.
7 We have put that in the agreement. We don't believe
8 that there's anything that we did in the ARCO case,
9 which the Water District has never contested, or this
10 case that would affect any of their rights.

11 Therefore there is nothing in this settlement
12 that goes beyond the District Attorney's powers that
13 are statutorily codified and rest with the District
14 Attorney's office. The Water District's claims are
15 common-law based; they are damage based; they are
16 independent of our claims; and we have always taken the
17 position, and the Court has read in the document we
18 have taken the position, that there's nothing we're
19 doing in this settlement that has anything to do with
20 precluding the Water District from pursuing their case
21 in Federal Court.

22 And that was taken into account obviously in
23 the agreement because, as the Court has read in the
24 agreement, there is language put in by the District
25 Attorney to say we don't represent the Water District;
26 we're not in privity with the Water District; and we do

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22

1 not believe it has any *res judicata* effect.

2 **THE COURT:** And any last reply from the defendant?

3 **MR. TEMKO:** Yes, please, briefly, Your Honor.

4 With all due respect to Mr. Miller, his
5 response on the untimeliness was somewhat sort of
6 double-talk. He made some reference to the fact that
7 Shell has consistently taken the position that he can
8 proceed only in Federal Court. Yes, we did remove
9 their action into Federal Court. That doesn't answer
10 the fundamental question about where has he been for
11 the last two years? He could have filed the motion to
12 intervene.

13 It is some possibility -- if you ask what the
14 effect would be if he in this untimely fashion were to
15 allowed to intervene, I guess there is some risks that
16 the whole thing will be removed to Federal Court, will
17 be transferred to back to the MDL, which I think does
18 go to the factors that you're allowed to consider in
19 your discretion the effect on the existing parties.
20 Don't think that's what the people of Orange County,
21 the District Attorney want to do. They want to settle
22 the case. We want to settle the case.

13 But it's -- it's disingenuous to say that
14 because we removed his other lawsuit, he couldn't have
15 filed a motion for leave to intervene two years ago.

16 When he talks about due process, I think, Your

1 Honor, you hit the nail right on the head. This is not
2 something where he's been given an hour to intervene.
3 This is a situation where he and his client have had
4 two-plus years to intervene and made a calculated
5 strategic judgment apparently not to do it.

6 Now, why they're doing it at the 12th hour,
7 trying to ballocks up, to use a legal term, this
8 settlement, I don't know; but I don't think the Court
9 should sanction that delay.

10 When Mr. Miller somehow suggests that there are
11 provisions that were specifically put into this
12 settlement agreement to try to undercut his lawsuit, I
13 think Mr. D'Agostino will confirm that the structure of
14 this settlement was presented to Shell on a
15 non-negotiable basis. In other words, the format I was
16 told from day one was going to be the format of the
17 ARCO settlement. And indeed the entire injunctive
18 provision, the plume delineation program, all of that
19 is identical to the structure of the ARCO settlement,
20 which again has been of public record for, I believe,
21 more than two years.

22 So it is misleading, to say the least, Your
23 Honor, to suggest that Mr. Miller didn't know what the
24 possibilities were in terms of a settlement provision.

25 And lastly I do think, Your Honor, that your
26 point is exactly right. If their concern was the

1 impact of this lawsuit on their lawsuit, they had the
2 opportunity to intervene. It's -- it's somewhat of a
3 red herring to say, we only now just saw the settlement
4 agreement.

5 Lastly Mr. Miller did say that somehow there
6 was a provision in the settlement that undercut the
7 People's interest because the settlement says that the
8 defendant's obligation to clean up is subject to a
9 five-year limit. That just blatantly mischaracterizes
10 the provisions of the settlement.

11 The injunctive relief provisions of the
12 settlement have a five-year time limit. But obviously,
13 Your Honor, the defendant's legal obligation to perform
14 cleanup at these sites will continue past the
15 expiration of that injunctive relief provision; and
16 indeed that provision is explicit in the settlement.

17 Thank you, Your Honor.

18 We again urge you to enter the settlement
19 today.

20 **THE COURT:** Last word, Mr. Miller.

21 **MR. MILLER:** Your Honor, I would, with respect to
22 the five-year comment.

23 Section 5.8 clearly terminates the defendant --
24 this is at page 14 -- the defendant's obligations under
25 the agreement after five years.

26 With respect to Mr. Temko's argument that we

1 which is what he represented to the Court about 10
2 minutes ago. It simply says, *settling defendant's*
3 *obligations hereunder* -- that is the separate
4 obligations under the settlement -- *will terminate in*
5 *five years.*

6 **THE COURT:** All right. The Court will deny the
7 request of the purported intervenor to decline to sign
8 this settlement judgment or to stay proceedings or
9 continue today's hearing on the settlement.

10 387 provides that permitting intervention would
11 allow the intervenor to join the plaintiff in claiming
12 what is being sought in the Complaint.

13 But I understand different causes of action are
14 being sought in the matter removed to Federal Court.

15 And I have not seen the -- any -- or heard
16 anything showing that there would be prejudice to the
17 parties in the other action, especially based upon the
18 fact that the statutory obligations of the defendant
19 are not affected, notwithstanding that their
20 obligations under the proposed settlement may terminate
21 in five years.

22 The Court -- cited by purported third-party
23 intervenor, *People versus Superior Court* at 737, I
24 believe, makes clear that this Court has all the same
25 discretion it would have in ruling upon the
26 appropriateness of intervention, including the right to

1 consider the timeliness of the request.

2 This is a very late request. In fact, the
3 Court now has basically pen to paper with respect to
4 approving the settlement agreement.

5 And the case, *People versus Superior Court*,
6 does say that trial Court possesses its discretion to
7 deny intervention, even if direct interest is shown by
8 the purported third-party intervenor where the original
9 litigant rights or interests outweigh the intervenor's
10 concern, potential delay, multiplicity of actions,
11 which the Court sees great prejudice to these parties,
12 having worked very hard on the settlement and also
13 worked very hard of getting the case ready for trial
14 before settlement discussions were made known to this
15 Court.

16 So the Court would exercise its discretion not
17 to take any action to delay proceedings.

18 I make no findings about the effect of this
19 settlement on any other action. I'll let an
20 appropriate Court at the appropriate time make those
21 determinations.

22 The Court had earlier at a prior hearing met
23 with the parties in this action, has reviewed the
24 proposed final judgment; and but for a couple of
25 provisions which -- which I think are now corrected
26 concerning the manner in which the provisions would be

1 enforced upon disagreement, has found that the terms
2 and conditions of the settlement appear to be fair to
3 all parties.

4 And so I would sign the order.

5 Mr. D'Agostino, anything further?

6 **MR. D'AGOSTINO:** No. Thank you, Your Honor.

7 **THE COURT:** Mr. Temko?

8 **MR. TEMKO:** No, Your Honor. Thank you.

9 **THE COURT:** Mr. Miller, you seek any further order
10 or findings of the Court?

11 **MR. MILLER:** In view of the Court's ruling, no.

12 **THE COURT:** All right.

13 **MR. MILLER:** Thank you very much for your time and
14 attention, Your Honor.

15 **THE COURT:** All right. Thank you.

16 (Proceedings concluded.)
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EXHIBIT 2

1 PILLSBURY WINTHROP SHAW PITTMAN LLP
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ORANGE COUNTY WATER DISTRICT
6

7

8

9

10 STATE WATER RESOURCES CONTROL BOARD
11 OF THE STATE OF CALIFORNIA

12

13	In the Matter of State Water Resources Control) Application No. 31174
14	Board Hearing on Water Rights Applications)
15	31165 and 31370 of San Bernardino Valley) DIRECT TESTIMONY OF CRAIG D.
16	Municipal Water District and Western) MILLER, P.E., ON BEHALF OF
17	Municipal Water District of Riverside County;) ORANGE COUNTY WATER
18	Application 31174 of Orange County Water) DISTRICT FOR WATER RIGHTS
19	District; Application 31369 of Chino Basin) APPLICATION 31174
20	Watermaster; Application 31371 of San)
21	Bernardino Valley Water Conservation District;) Date: May 2, 2007
22	and Application 31372 and Waste Water) Time: 9:00 a.m.
23	Change Petition WW-0045 of the City of) Location: Cal EPA Building
24	Riverside.) Coastal Hearing Room
25)

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DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD I-1

OCWD-MTBE-001-199678

1 **DECLARATION OF CRAIG D. MILLER, P.E.**

2 I, Craig D. Miller, P.E., declare and state as follows:

3 I. **BACKGROUND AND QUALIFICATIONS.**

4 1. I am an Assistant General Manager at the Orange County Water District
5 (“OCWD”). I hold a BS degree in civil engineering from California State University
6 Long Beach and am a California professional engineer. I am responsible for overseeing
7 the departments of engineering, planning and watershed management, wetlands
8 operations, hydrogeology, and natural resources. My primary focus at OCWD is the
9 development and operation of programs that sustain and protect the Orange County
10 Groundwater Basin, as well as maximizing beneficial use of the basin. My biography is
11 Exhibit OCWD 1-2.

12 2. The following written testimony was prepared by me and under my
13 supervision, with the assistance of Greg D. Woodside, Planning and Watershed
14 Management Director at OCWD and a California professional geologist and certified
15 hydrogeologist, and other OCWD staff.

16 3. OCWD is applying for a permit to divert a wet-year maximum of 505,000
17 acre-feet annually (“AFA”)¹ of water from the Santa Ana River (“SAR”) at its diversion
18 facilities below Prado Dam. My testimony addresses the following matters:

- 19 • The physical regime within which OCWD operates;
20 • OCWD’s operations, mandate and mission;
21 • The importance of the SAR to California water supplies;
22 • Coordinated planning in the SAR Watershed to maximize the use of local
23 water supplies;
24 • OCWD’s projects to maximize the beneficial use of the SAR, protect
25

26 ¹ One acre-foot is the amount of water that would cover one acre of land – about a
27 football field – one foot deep (326,000 gallons).

1 water quality, and enhance natural resources in the SAR Watershed;

2 • OCWD's plans to increase the beneficial use of available SAR flows.

3 II. LEGISLATIVE MANDATE OF OCWD.

4 4. OCWD was formed in 1933 by a special act of the California Legislature
5 for the purpose of protecting the Orange County groundwater basin. OCWD now meets
6 the water needs of over two million people, and encompasses an area of 229,000 acres,
7 covering most of the northern half of Orange County. A map of OCWD's boundary is
8 submitted as Exhibit OCWD 1-3.

9 5. OCWD's powers are defined in the District's enabling legislation², and
10 include:

- 11 • Manage, replenish, regulate, and protect groundwater supplies;
- 12 • Regulate and control the storage of water and the use of groundwater basin
13 storage space;
- 14 • Appropriate and acquire water and water rights;
- 15 • Conserve and reclaim water; and
- 16 • Provide for protection and enhancement of the environment.

17 6. OCWD's mission is to implement these powers to manage and protect the
18 groundwater basin and provide a safe, reliable water supply in an environmentally
19 responsible manner. It is important to note that OCWD is not a water retailer and does
20 not serve water to the public. Instead, OCWD manages the groundwater basin for the
21 benefit of the public. There are 19 major producers from the basin which include cities,
22 water districts, and private water companies that pump water from the basin and retail it

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27 ² California Legislature, Ch. 924, Stats. 1933, as amended.

28 600278517v1

3
DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD 1-1

OCWD-MTBE-001-199680

1 to the public³. There are also approximately 200 small independent well owners who
 2 produce water primarily for irrigation purposes.

3 III. THE PHYSICAL ENVIRONMENT IN WHICH OCWD OPERATES.

4 7. OCWD's recharge facilities are located in and generally adjacent to the
 5 SAR in the cities of Anaheim and Orange, approximately 10 miles below Prado Dam.
 6 Exhibit OCWD 1-4 is a map of OCWD's recharge facilities. The first location where
 7 OCWD diverts water from the SAR for groundwater recharge is approximately one-half
 8 mile downstream of Imperial Highway, where OCWD's Imperial Inflatable Dam is
 9 located in the river channel. Exhibit OCWD 1-5 is a photograph of the SAR in the
 10 vicinity of Imperial Highway. Exhibit OCWD 1-6 is a photograph of the Imperial
 11 Inflatable Dam.

12 8. Starting upstream of this diversion point, in the area stretching from Weir
 13 Canyon Road to the Pacific Ocean, the SAR has been modified significantly for flood
 14 control purposes. A series of drop structures have been created in the river bottom and
 15 the sides have been constructed with concrete and/or rip-rap. Exhibit OCWD 1-7 is a
 16 photograph of one of the drop structures in the area where recharge occurs through the
 17 river bottom, near Orangewood Avenue. Exhibit OCWD 1-8 is a photograph of the SAR
 18 channel showing the construction of levees to increase the rate of groundwater recharge.

19 9. Downstream of the area where the SAR channel bottom recharges the
 20 groundwater basin, the Riverview Golf Course occupies and operates within the river
 21 channel. Exhibit OCWD 1-9 is a photograph of the Riverview Golf Course in the SAR in
 22 Santa Ana. Downstream of the golf course, the channel bottom is lined with concrete,

23 _____
 24 ³ The entities that produce water from the basin to provide to the public are the cities of
 25 Anaheim, Buena Park, Fountain Valley, Fullerton, Garden Grove, Huntington Beach,
 26 La Palma, Newport Beach, Orange, Santa Ana, Seal Beach, Tustin, Westminster, as
 27 well as East Orange County Water District, Irvine Ranch Water District, Mesa
 Consolidated Water District, Serrano Water District, Yorba Linda Water District, and
 Golden State Water Company.

28 600278517v1

4

DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD 1-1

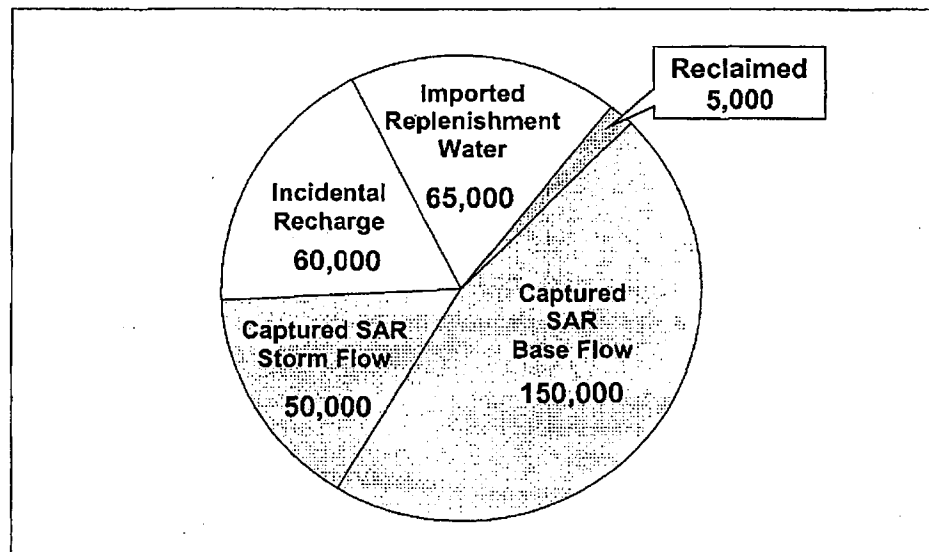
OCWD-MTBE-001-199681

1 except for the lower section near the Pacific Ocean. Exhibit OCWD 1-10 is a photograph
 2 of the concrete-lined channel through Santa Ana. Downstream of the 405 Freeway, most
 3 of the channel bottom is unlined and is subject to sand and vegetation removal by the
 4 Army Corps and County of Orange. Exhibit OCWD 1-11 is a photograph of sand
 5 removal from the SAR channel downstream of the 405 Freeway. Exhibit OCWD-12 is a
 6 photograph of the confluence of the SAR and the Pacific Ocean.

7 IV. IMPORTANCE OF SAR DIVERSION TO ORANGE COUNTY'S WATER
 8 SUPPLY AND STATEWIDE WATER SUPPLY.

9 10. The Orange County Groundwater Basin is the primary source of water
 10 supply for the 2.3 million people that live in the OCWD service area. The SAR is the
 11 primary source of supply used to replenish the basin (see Figure 1).

12 **Figure 1. Groundwater Basin Supplies**
 13 **(330,000 AFA average production)**



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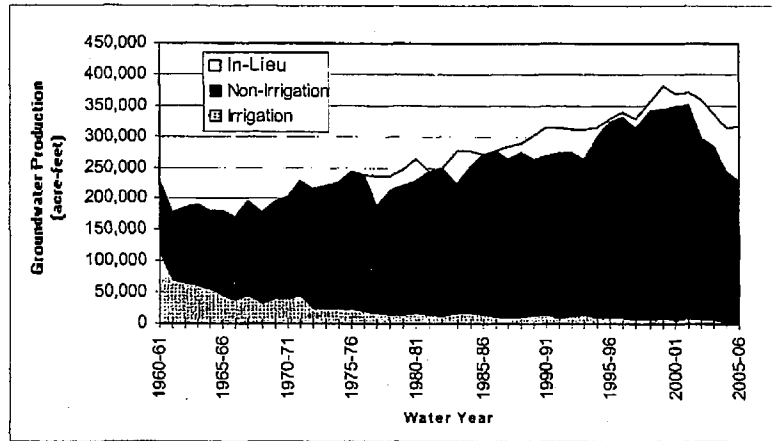
Exhibit OCWD 1-1

OCWD-MTBE-001-199682

1 Residents, businesses, and other water users rely upon pumping from the
 2 groundwater basin as their primary source of water supply. Without the replenishment
 3 supply from the SAR, production from the basin would have to be significantly reduced
 4 by an average of 200,000 AFA to maintain a sustainable basin yield. See Figure 2. The
 5 existing demands supplied from the basin would have to be replaced by an imported
 6 water source, if such were available.

7 Figure 2

8 Historical Groundwater Production



19 11. The Water Quality Control Plan for the Santa Ana River Basin adopted by
 20 the Regional Water Quality Control Board, Santa Ana Region, identifies Reach 2 of the
 21 Santa Ana River, the portion from 17th Street in Santa Ana to Prado Dam, as having a
 22 "GWR" or Groundwater Recharge beneficial use.⁴ OCWD's recharge activities that take
 23 place in this reach reflect this beneficial use designation.

24

25

26 ⁴ California Regional Water Quality Control Board, Santa Ana Region. 1995. *Water*
Quality Control Plan for the Santa Ana River Basin, as amended (the "Basin Plan").
 27 All references not listed as exhibits are published documents available in the public
 (continued...)

1 12. In the last four years, the SAR supplied more water to Orange County than
 2 the Colorado River or the State Water Project.⁵ The SAR also supplies a quantity of
 3 water that is generally comparable to the City of Los Angeles' Owens Valley Aqueducts.⁶
 4 Given the interconnected nature of water supplies across the State, the SAR is a key
 5 foundation of the water supply of California and the Colorado River Basin.

6 13. The water OCWD manages in the Orange County Groundwater Basin also
 7 is one of the key foundations of Southern California's future water supply. This is
 8 reflected in the Integrated Water Resource Plan ("IRP") prepared by the Metropolitan
 9 Water District of Southern California ("Met"). This IRP projects the need for
 10 420,000 AFA of groundwater production from the Orange County Groundwater Basin in
 11 2025 for dry year conditions.⁷

12 14. In the unfortunate event that the SAR was not available to replenish the
 13 groundwater basin, significant water supply impacts would affect areas in Southern
 14 California and beyond. There are no other sources of supply readily available that can
 15 replace the 200,000 AFA provided by the SAR. The loss of SAR water for
 16 replenishment of the Orange County Groundwater Basin would likely result in
 17 significant, negative environmental impacts not only locally, but would also shift demand
 18 and additional environmental impacts to the State Water Project and Colorado River

19 _____
 20 (...continued)
 21 domain. If a reader cannot locate such a document, OCWD will be pleased to assist in
 22 getting a copy.

23 ⁵ From July 1, 2002 to June 30, 2006, the SAR supplied 213,000 AFA to Orange
 24 County; in this same time period, the Colorado River supplied 156,000 AFA and the
 25 State Water Project supplied 207,000 AFA (data from Municipal Water District of
 26 Orange County, 2007).

27 ⁶ The Owens Valley Aqueducts operated by the City of Los Angeles are estimated to
 provide on average approximately 250,000 AFA of existing supplies; (Metropolitan
 Water District of Southern California. 2005. *Urban Water Management Plan*).

⁷ Metropolitan Water District of Southern California. 2004. *Integrated Water Resources
 Plan, 2003 Update*.

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Exhibit OCWD 1-1

OCWD-MTBE-001-199684

1 system, because these are the likely locations that would be used for acquiring an
2 alternative water supply.

3 15. Replenishment of the groundwater basin also allows local water suppliers
4 to weather droughts. Due to the groundwater basin's storage capacity, the basin provides
5 a buffer against short-term declines in precipitation and the availability of replenishment
6 water. Using the basin's storage capacity, groundwater pumping from the basin can be
7 maintained over a four-year drought, even though the supply of replenishment water
8 could be reduced by as much as 200,000 AF during the drought.⁸ SAR supplies are
9 critical to refilling the basin between such drawdowns.

10 16. Climate change's potential impacts on statewide water resources heighten
11 the importance of maximizing local water supplies. In July 2006, the California
12 Department of Water Resources ("DWR") prepared a technical memorandum report
13 entitled "Progress on Incorporating Climate Change Into Management of California's
14 Water Resources."⁹ DWR's report states that climate change increases the uncertainty in
15 supplies from the Sacramento/San Joaquin Delta. Potential impacts on the
16 Sacramento/San Joaquin Delta from climate change that are described in the DWR report
17 include changes in runoff timing and amount and sea level rise. These potential impacts
18 add further uncertainty with respect to supplies from the Sacramento/San Joaquin Delta
19 and increase the importance on reducing future demands on the Delta. With respect to
20 future actions and considerations, the DWR climate change report states:

21 "Lastly, we need to explore ways of increasing supply to or reducing demand of
22 SWP and CVP contractors."¹⁰

23 _____

24 ⁸ OCWD. 2004. Groundwater Management Plan.

25 ⁹ California Department of Water Resources. 2006. *Progress on Incorporating Climate*
26 *Change into Planning and Management of California's Water Resources*, Technical
27 Memorandum Report.

28 ¹⁰ California Department of Water Resources. 2006.

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Exhibit OCWD 1-1

OCWD-MTBE-001-199685

1 17. Given the challenges facing the Delta, and the additional, general
 2 uncertainty due to climate change, the importance of local supplies becomes even greater.
 3 Maximum reliance on local water supplies and increased recycling and re-use, as
 4 opposed to increased imported water usage, are reflected in OCWD's application.

5 18. Increased use of local supplies also reduces generation of greenhouse
 6 gases like carbon dioxide. As discussed in the DWR climate change report, the
 7 California Energy Commission estimated 44 million tons of carbon dioxide are emitted
 8 per year to provide water in CA.¹¹ Transferring water from northern to southern
 9 California creates one of the largest power demands in California. On the other hand,
 10 SAR water flows to OCWD's recharge facilities by gravity without the need to pump the
 11 water. If SAR flows were not available to replenish the Orange County Groundwater
 12 Basin, an alternative water supply would require increased energy usage and increase the
 13 generation of carbon dioxide. Reducing the need to pump water into Southern California
 14 will help reduce the generation of greenhouse gases such as carbon dioxide. As stated in
 15 the DWR climate change report, such "reductions in energy consumption related to water
 16 will help the state meet its greenhouse gas reduction goals."¹²

17 19. As additional flows become available from the SAR, replenishment of the
 18 groundwater basin with this water will help reduce the generation of greenhouse gases, as
 19 compared to meeting increased water supplies through more energy-intensive means.

20 V. MAXIMIZING LOCAL WATER RESOURCES THROUGH COORDINATED
 21 PLANNING AND COOPERATION.

22 A. Coordination with Upstream Agencies.

23 20. Water supply agencies in the SAR Watershed have a long history of
 24 working together to protect the SAR's environment and resources, and to maximize its
 25 _____

26 ¹¹ California Department of Water Resources. 2006.

27 ¹² California Department of Water Resources. 2006.

1 beneficial use as a critical water supply source. This cooperative relationship allows
 2 water in the watershed to be used and reused, such that SAR flows are typically used
 3 several times before water is discharged to the ocean.¹³

4 21. The Santa Ana Watershed Project Authority ("SAWPA") was formed in
 5 1968 to coordinate planning among the water agencies in the SAR Watershed. SAWPA
 6 is made up of five member agencies: Eastern Municipal Water District, Inland Empire
 7 Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water
 8 District and Western Municipal Water District. The member agencies' boundaries
 9 encompass most of the Santa Ana River watershed. Since 1968, SAWPA's mission has
 10 grown to include building facilities, in addition to its planning role.

11 22. SAWPA has prepared an Integrated Watershed Plan and Integrated
 12 Regional Water Management Plan for the SAR Watershed. The plan includes a range of
 13 cooperative activities and projects to protect water quality, increase available water
 14 supplies, enhance natural resources, and provide recreational and community outreach
 15 benefits.¹⁴ Selected highlights of the member agencies' achievements through SAWPA
 16 include:

- 17 • The Santa Ana Regional Interceptor ("SARI"), a regional brineline with
 18 over 40 miles of pipeline to collect high salt wastewater and transport it
 19 for treatment downstream in Orange County. The SARI is a vital salt
 20 management infrastructure that keeps high salt wastewater out of the
 21 groundwater basins such as the Chino Basin and the Orange County
 22 Groundwater Basin.
- 23 • Planning, constructing and operating desalters – SAWPA has played a key

24 _____
 25 ¹³ Regional Water Quality Control Board. 1995. Water Quality Control Plan for the
 Santa Ana River Basin, as amended.

26 ¹⁴ Santa Ana Watershed Project Authority. 2005. *Santa Ana Integrated Watershed*
 27 *Plan, 2005 Update*. Exhibit OCWD 1-13.

1 role in the Arlington desalter and Chino 1 desalter, which extract and treat
 2 high salt groundwater. Potable water produced from the desalters is
 3 provided to local communities and the extracted salt is transported out of
 4 the watershed through the SARI.

- 5 • Facilitating the Nitrogen/Total Dissolved Solids ("TDS") Task Force that
 6 revised the Santa Ana River Basin Plan nitrogen and TDS water quality
 7 objectives in groundwater basins throughout the region. The Task Force
 8 has also implemented a monitoring program to assess water quality in the
 9 Santa Ana River and in the groundwater basins to ensure compliance with
 10 water quality objectives.

11 B. OCWD Actively Works with the Army Corps of Engineers and Flood
 12 Control Agencies To Maximize Use of Local Water Supplies.

13 23. Prado Dam was built in 1941, primarily for flood control purposes. Since
 14 its inception, the Army Corps has operated Prado Dam to also provide for water
 15 conservation. The Army Corps subordinates water conservation to the primary flood
 16 control purpose of Prado Dam. Water conservation is enabled by controlling releases so
 17 that the water can be recharged downstream in the Orange County Groundwater Basin.¹⁵
 18 Between 1941 and 1991, various changes were made to the Prado Reservoir regulation
 19 schedule to accommodate water conservation. Beginning the 1991, the Army Corps and
 20 OCWD began working on a Memorandum of Agreement, signed by the Assistant
 21 Secretary of the Army in 1993, which formalized water conservation activities at Prado
 22 Dam. A new Memorandum of Agreement was executed in 2006 (Exhibit OCWD 1-15).
 23 The congressional authorization for storage at Prado Dam for water conservation
 24 purposes is Exhibit OCWD 1-16. The agreement with the Army Corps provides for the
 25 _____

26 ¹⁵ Letter dated December 1, 2005 from Mark M. Weintraub of Army Corps of Engineers
 27 to Samantha K. Olson of Division of Water Rights, SWRCB. Exhibit OCWD 1-14.

1 temporary storage of water for conservation at Prado Dam up to an elevation of 498 feet
2 mean sea level during the flood season, and up to an elevation of 505 feet during the non-
3 flood season. However, if the temporarily stored water needs to be released for flood
4 control purposes based on a forecast of future precipitation or other factors, the Army
5 Corps promptly releases the water.

6 24. The agreement for water conservation at Prado Dam was achieved after
7 extensive environmental analysis, coordination with the local flood control agencies, and
8 commitment of OCWD to mitigate for environmental impacts associated with the
9 temporary water storage. Based on this cooperative effort, up to 25,760 AF of water can
10 be temporarily stored at Prado Dam for subsequent release and recharge into the Orange
11 County Groundwater Basin.

12 25. The County of Orange and OCWD also coordinate to utilize other flood
13 control facilities for multiple benefits. Under a cooperative agreement with the County of
14 Orange, OCWD also recharges water in Miller Basin, Raymond Basin, and Placentia
15 Basin. These facilities were originally constructed by the County of Orange for flood
16 control purposes. The County and OCWD have a long history of working together to
17 allow these facilities to serve their flood control purpose and also recharge the
18 groundwater basin.

19 C. Additional Highlights of Cooperative, Watershed-Based Planning.

20 26. For the past several decades, OCWD, the United States Army Corps of
21 Engineers, and others have monitored the flow of the SAR. The quantity of storm flow
22 and base flow of the SAR at Prado Dam are determined and published annually by the
23 SAR Watermaster, based on streamgaging data collected by the United States Geological
24 Survey ("USGS") and Prado Basin storage data collected by the Army Corps. The five-
25 member SAR Watermaster Committee is appointed by the Superior Court to administer
26 the provisions of the Stipulated Judgment in the case of OCWD vs. City of Chino et al,
27 entered by the court on April 17, 1969 (Case No. 117628-County of Orange). The five-

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Exhibit OCWD 1-1

OCWD-MTBE-001-199689

1 member committee includes representatives from agencies above and below Prado Dam
2 and has provided an effective, consensus-based mechanism to monitor and evaluate
3 annual flows in the SAR.

4 27. Additionally, the Santa Ana Watershed Association ("SAWA") is a
5 partnership formed by five resource conservation districts and OCWD to develop,
6 coordinate, and implement natural resources programs to support a sustainable ecosystem
7 in the SAR Watershed. Our partnering agencies include the California Department of
8 Fish and Game, United States Fish and Wildlife Services, Army Corps of Engineers,
9 United States Forest Service, and the Santa Ana Regional Water Quality Control Board.
10 SAWA provides coordinated natural resources management from the San Bernardino
11 Mountains to the Pacific Ocean. SAWA's work has helped restore the endangered least
12 Bell's vireo in the watershed. SAWA has also removed approximately 3,000 acres of the
13 invasive weed Arundo Donax, resulting in approximately 11,000 AFA in water
14 conservation, enhanced habitat for endangered species, and reduced fire hazard.

15 VI. OCWD'S PROJECTS AND OPERATIONS.

16 A. Current Operations.

17 28. OCWD's operations are focused on managing the groundwater basin,
18 protecting and improving water quality, replenishing the groundwater basin, and
19 enhancing the watershed's natural resources. To replenish the groundwater basin,
20 OCWD operates 26 recharge facilities in Anaheim and Orange. The two sources of
21 recharge water at these facilities are SAR flows and imported water purchased from Met.

22 29. In general terms, the SAR flows that reach Prado Dam consists of base
23 flow, storm flow, and a relatively minor amount of non-tributary water. For the purposes
24 of this discussion, non-tributary water is included in SAR base flow. An example of non-
25 tributary water is potable water discharged into the SAR from the Arlington desalter.
26 The majority of base flow reaching Prado, especially in summer months, is composed of
27 tertiary-treated wastewater discharges from wastewater treatment facilities upstream of

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Exhibit OCWD 1-1

OCWD-MTBE-001-199690

1 Prado Dam. From water year 2002/03 to 2004/05, the average amount of base flow at
 2 Prado Dam was 148,000 AFA.¹⁶ OCWD recharges essentially all the base flow at the
 3 OCWD recharge facilities in Anaheim and Orange.

4 30. OCWD has invested over \$92 million to capture and recharge SAR storm
 5 flow. The rate of storm flow releases from Prado Dam varies significantly through time.
 6 During the winter season, storm flow releases will increase from essentially zero to 3,000
 7 to 5,000 cfs under storm conditions in a matter of one to two days. During non-storm
 8 periods releases from Prado are typically less than 300 cfs. Recharge of storm flow has
 9 significant salt reduction benefits, since the TDS of storm water is typically 200 to 300
 10 milligrams per liter, considerably lower than SAR base flow.¹⁷

11 31. Because the SAR Watershed is very flashy, large quantities of flow reach
 12 Prado in a very short time frame under storm conditions. It is not practical to build a
 13 recharge system that has the capacity to recharge 3,000 – 5,000 cfs flows released from
 14 Prado because flows of that magnitude occur infrequently. However, with the
 15 conjunctive use of storage and recharge facilities it is possible to greatly improve the
 16 amount of water that is captured annually. Storage capacity, such as the Prado
 17 conservation program, is used to capture the short-term, high volume storm flows. The
 18 captured water is then released slowly over time, at a rate which matches the maximum
 19 recharge capacity of the downstream recharge facilities. The District is constantly
 20 striving to increase recharge capacity so that captured water can be recharged faster to
 21 free up storage space for subsequent storms.

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25 ¹⁶ Santa Ana River Watermaster. 2006. *Santa Ana River Watermaster 35th Annual*
 26 *Report*. Exhibit OCWD 3-3.

27 ¹⁷ OCWD. 2004. *Santa Ana River Water Quality and Health Study Final Report*.

1 32. Water conservation at Prado Dam for subsequent groundwater recharge in
2 Orange County provides a substantial benefit in recharging SAR stormflow. OCWD's
3 diversion and recharge capacity is typically limited to 500 cfs, except for short periods of
4 time. The rate of baseflow is typically 200 to 250 cfs. During periods when only
5 baseflow is present in the SAR, OCWD typically has unused recharge capacity. Small
6 storms typically do not generate enough storm flow to exceed OCWD's diversion and
7 recharge capacity. However, when the amount of runoff reaches a certain magnitude, the
8 flow rate in the SAR exceeds OCWD's diversion and recharge capacity. When this
9 occurs, the remaining water in the SAR flows to the Pacific Ocean. Off stream storage
10 and utilization of the Prado conservation pool are the only foreseeable methods to
11 minimize such losses to the ocean. However, storage by itself does not create additional
12 recharge, but storage, diversion downstream in Orange County, and subsequent recharge
13 through the OCWD recharge facilities provides a valuable mechanism to replenish the
14 groundwater basin with low TDS concentration water.

15 33. OCWD operates 26 facilities to recharge SAR flows. Exhibit OCWD 1-4
16 shows the locations of these facilities. OCWD diverts SAR flows from the river to
17 recharge facilities adjacent to and distal from the river primarily through two inflatable
18 dams. The upstream inflatable dam is located near Imperial Highway in Anaheim.
19 Exhibit 1-6 is a photograph of the Imperial inflatable rubber dam. A second inflatable
20 dam, the Five Coves inflatable dam, is located approximately three miles downstream of
21 the Imperial Highway inflatable dam.

22 34. Additionally, there are three relatively smaller diversion points located
23 between the two inflatable dams that divert water from the SAR into the Off-River
24 recharge basin. These three diversion points are pipes or "tubes" of 30-inch to 36-inch
25 diameter. There are four tubes at each of these diversions. The tubes are constructed
26 through the levee of the SAR channel.

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Exhibit OCWD 1-1

OCWD-MTBE-001-199692

EXHIBIT 3

1 35. The SAR bottom is also a diversion point. The bottom of the SAR
2 channel provides for up to 300 cfs of recharge into the groundwater basin. The locations
3 of the diversion through the SAR bottom (diversion number 7), the three sets of transfer
4 tubes (diversions number 3, number 4, and number 5) and the two inflatable dams
5 (diversion number 2 and number 6) are shown on Exhibit OCWD 1-4.

6 36. These diversions, together with the diversion to the Prado Wetlands above
7 Prado Dam and diversion at Prado Dam to the conservation pool, are summarized in
8 Table 1. Water diverted to the Prado Wetlands at River Road is returned to the SAR
9 above Prado Dam. Water diverted to the conservation pool at Prado Dam is returned to
10 the SAR channel below Prado Dam. Not counting the diversion to Prado Wetlands and
11 diversion to the conservation pool at Prado Dam, OCWD's existing diversion capacity is
12 1,670 cfs.

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Exhibit OCWD 1-1

OCWD-MTBE-001-199693

TABLE 1 OCWD EXISTING DIVERSION POINTS				
	Diversion Point	Diversion Structure	Capacity (cfs)	Diverts to
1	River Road ¹	Six 36-inch tubes and gates	150	Prado Wetlands above Prado Dam
2	Imperial Inflatable Dam	Inflatable Dam/Headgates	550	Off-river recharge facilities
3	Below Lakeview	Four 30-inch tubes and valves	100	Off-river recharge facilities
4	Below Tustin Avenue	Four 36-inch diameter tubes and valves	80	Off-river recharge facilities
5	East of Glassell Street	Four 36-inch tubes and valves	140	Off-river recharge facilities
6	Five Coves Inflatable Dam	Inflatable Dam	500	Off-river recharge facilities
7	Diversion through SAR bottom	River bottom	300	Orange County Groundwater Basin
		Total Diversion Capacity not counting diversion to Prado Wetlands and conservation pool	1,670	
8	Diversion at Prado Dam (conservation pool) ²	Numerous inlets into conservation pool	20,000 ³	Conservation pool
¹ Water diverted at River Road is returned to SAR channel above Prado Dam.				
² Water diverted (stored) at Prado Dam is returned to SAR channel below Prado Dam.				
³ Capacity accounts for instantaneous rate flow during storm event.				

37. Exhibit OCWD 1-17 shows the characteristics of OCWD's recharge facilities. OCWD now can recharge 250,000 AFA of surface water into the groundwater basin.¹⁸ These facilities include shallow (generally 25 feet deep or less) and deep recharge basins, as well as portions of the SAR channel bottom and the Santiago Creek channel bottom. Most of the facilities are owned by OCWD. Exhibit OCWD 1-18 shows the property owned by OCWD in the Anaheim and Orange area. Under an agreement with the

¹⁸ OCWD. 2006. *Program EIR for OCWD's Application to Appropriate SAR Water*. State Clearinghouse No. 2002081024. Certified by OCWD in July 2006.

1 County of Orange, OCWD also recharges in Miller Basin, Raymond Basin, and Placentia
2 Basin, which are flood control facilities owned by the county.

3 38. In 2003, OCWD completed a Recharge Study that evaluated the recharge
4 system and recommended future projects to optimize the system's efficiency. The
5 Recharge Study identified the accumulation of fine-grained sediment as the primary source
6 of clogging in the recharge basins, and the major limiting factor to increasing recharge
7 efficiency. Fine-grained sediment accumulates on the basin bottom, along with biological
8 material, to form a thin layer that has a low permeability. This thin layer, called a 'clogging
9 layer' develops over time and reduces each basin's recharge rate.

10 39. OCWD cleans the recharge basins to remove the clogging layer. Removal
11 of the clogging layer restores the basin's recharge rate to the highest rate possible. For over
12 30 years, OCWD has been cleaning the recharge basins using heavy construction
13 equipment such as bulldozers and scrapers. In order to clean a basin the water must be
14 removed, the basin allowed to dry and then the heavy equipment is used to scrape off a very
15 thin layer from the bottom and sides of the basin. The process can take from 2 to 12 weeks
16 depending on the size and location of the facility.

17 40. Mechanical cleaning with heavy equipment is not the most efficient method
18 to clean the basins. Unfortunately, the process unnecessarily removes some of the native,
19 clean sediment from the recharge facilities. Additionally, the recharge basins must be
20 drained and allowed to dry before the heavy equipment can operate in them, which can take
21 weeks. OCWD has therefore conducted extensive research and testing of alternative
22 cleaning methods. Based on this research and testing, two additional methods of cleaning
23 are being employed.

24 41. OCWD has installed four basin cleaning vehicles ("BCV") that allow for
25 basin cleaning without having to drain the basins. The BCVs utilize a floating barge with a
26 unique patented dredge type head that is connected to an undercarriage traveling at the
27 bottom of the recharge basin. The dredge spins a brush head that is located in a vacuum
28 hood which extracts the suspended solids from the basin. All electrical components,

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Exhibit OCWD 1-1

OCWD-MTBE-001-199695

1 controls and the operator are located on the floating barge. Exhibit OCWD 1-19 shows a
 2 photograph of the BCV in Miller Recharge Basin. This design has demonstrated success in
 3 increasing recharge in shallow recharge basins.

4 42. OCWD has also purchased a beachcleaner to remove the clogging layer.
 5 The beachcleaner, originally developed to remove trash from sandy beaches, effectively
 6 removes the thin clogging layer in the bottom of recharge basins once they are dry. A
 7 picture of the beachcleaner is shown in Exhibit OCWD 1-20.

8 43. OCWD also has a team of OCWD staff called the "Recharge Enhancement
 9 Working Group" that works to enhance the operations of the District's recharge system.
 10 The team initiates, tests, and implements new ideas to clean the recharge basins, remove
 11 sediment from the recharge water, and other improvements to maximize recharge. Outside
 12 experts from other organizations are also invited to the Recharge Enhancement Working
 13 Group meetings to evaluate concepts developed by other agencies.

14 44. OCWD also constructed a pump station and 66-inch diameter pipeline to
 15 convey SAR flows from the Burris Basin to Santiago Basin. The Santiago Basin includes
 16 Bond Pit, Blue Diamond Pit, and Smith Pit. The pump station and pipeline can convey up
 17 to 235 cfs to Santiago Basin. OCWD can divert up to approximately 15 cfs from the 66-
 18 inch diameter pipeline into Santiago Creek for groundwater recharge in the unlined portion
 19 of Santiago Creek.

20 B. New Source of 72,000 AFA of Water – The Groundwater
 21 Replenishment System.

22 45. In order to further maximize the use of local resources and replace the need
 23 to import water from outside the watershed, OCWD and the Orange County Sanitation
 24 District ("OCSD") are in the final stages of construction of the \$480 million Groundwater
 25 Replenishment System. This system will recycle water that OCSD otherwise would
 26 discharge to an ocean outfall. Phase 1 will be completed in Fall 2007 and produce 72,000
 27 AFA of new water supply. The new water supply will be used for the seawater intrusion
 28 barrier in the Talbert Gap and to replenish the groundwater basin using the Kraemer

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Exhibit OCWD 1-1

OCWD-MTBE-001-199696

1 Recharge Basin in Anaheim. The Groundwater Replenishment System will purify
 2 secondary treated wastewater using microfiltration, reverse osmosis, and advanced
 3 oxidation. The advanced oxidation treatment will be provided by ultraviolet light and
 4 hydrogen peroxide. Because of the high degree of treatment, the water produced is near
 5 distilled water quality and minerals need to be added back in to prevent the water from
 6 dissolving minerals from the pipeline used to transport the water. The backbone of the
 7 treatment plant is constructed to treat up to 110,000 AFA. Additional phases, beyond Phase
 8 1, will be constructed as additional secondary treated wastewater becomes available.

9 46. The high degree of treatment allows another increment of use for water that
 10 would otherwise be disposed in the Pacific Ocean. OCSD partnered with OCWD on the
 11 project because of the projects water supply and reliability benefits, and the project allows
 12 the Sanitation District to defer construction of a second ocean outfall.

13 C. OCWD's Water Quality Enhancement Program.

14 47. OCWD's water quality protection program improves water quality in the
 15 SAR and the groundwater basin. The program includes the Prado Wetlands, the Irvine and
 16 Tustin Desalters, and the North Basin Groundwater Protection Project. OCWD also
 17 engages in a proactive water quality monitoring program.

18 48. OCWD re-constructed the 450-acre Prado Wetlands in 1996 to remove
 19 nitrate from the SAR. Exhibit OCWD 1-21 is a map of the Prado Wetlands. From 1986 to
 20 1992, base flow in the SAR exceeded the nitrate water quality objective for Reach 3 of the
 21 SAR.¹⁹ In response to this, the Regional Board required the dischargers upstream of Prado
 22 Dam to provide additional treatment. In order to improve the quality of the source water to
 23 the Orange County groundwater basin, OCWD constructed substantial improvement at the
 24 Prado Wetlands. The wetlands had existed since the 1950s as duck hunting ponds, but were
 25 not optimized to improve water quality through nitrate reduction. OCWD's reconstruction

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27 ¹⁹ SAWPA. 2006. *2005 Annual Report on Santa Ana River Water Quality. Final Report.*
 28

1 in 1996 improved the wetlands' treatment capacity and resulted in a treatment efficiency
2 that can remove up to 90 percent of the nitrate in the SAR water diverted to the wetlands.
3 49. OCWD and the Irvine Ranch Water District, with supporting funding from
4 the Department of Defense, constructed the Irvine Desalter to remediate volatile organic
5 compound contamination from the now closed El Toro Marine Corps Air Station. In
6 addition to remediating the volatile organic compound contamination, the Irvine Desalter
7 also remediates high salt and nitrate concentration groundwater in the Irvine area. The
8 desalter began operation in 2006 and is estimated to remove 2,000 tons per year of salts
9 from the groundwater basin.

10 50. OCWD and the City of Tustin constructed the Tustin Seventeenth Street
11 Desalter, which began operation in 1996. The desalter extracts and treats groundwater with
12 high nitrate and TDS concentration using three production wells and a reverse osmosis
13 treatment system. The reverse osmosis treatment capacity is 2 million gallons per day.

14 51. OCWD has completed review under the California Environmental Quality
15 Act ("CEQA") and is in final design to construct the North Basin Groundwater Protection
16 Project. The purpose of the project is to control migration of groundwater contaminated
17 with volatile organic compounds and remove contaminated groundwater from the
18 groundwater basin. After extraction through five wells, the water will be treated and
19 recharged back into the groundwater basin. The estimated cost of the project is
20 \$50 million. OCWD is pursuing legal action against the parties responsible for the
21 contamination.

22 52. OCWD is also pursuing legal action against parties that are responsible for
23 contaminating groundwater with MTBE.

24 D. Proactive Water Quality Monitoring Program.

25 53. OCWD has a far-reaching monitoring program for the SAR and the
26 groundwater basin. From 1994 to 2004, OCWD voluntarily conducted the Santa Ana River
27 Water Quality and Health ("SARWQH") Study at a cost of \$10 million. The final report
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Exhibit OCWD 1-1

OCWD-MTBE-001-199698

1 for the project was published in 2004.²⁰ OCWD conducted the study because of the high
 2 percentage of wastewater in the SAR during non-storm periods. The goals of the
 3 SARWQH Study were to apply advanced water quality characterization methods to assess
 4 the quality of the SAR water and the groundwater after SAR water is recharged. The multi-
 5 disciplinary study design included an examination of hydrogeology, microbiology,
 6 inorganic and organic water chemistry, toxicology and public health. Analyses and
 7 research in the SARWQH Study were conducted by scientists, researchers, and water
 8 quality experts from numerous organizations, including Stanford University, Lawrence
 9 Livermore Nation Lab, USGS, Oregon State University, and Met. The results of this
 10 extensive study confirmed that current recharge practices using SAR water are protective of
 11 public health. Findings from the SARWQH Study provided information necessary for the
 12 planning and permitting of other projects, such as the Groundwater Replenishment System
 13 currently under construction at OCWD. Results are also helping to shape the California
 14 Department of Health Services (DHS) proposed regulations for groundwater recharge.

15 54. OCWD requested that the National Water Research Institute ("NWRI")
 16 conduct an independent review of the results from the SARWQH Study. NWRI assembled
 17 a group of experts in the fields of hydrogeology, water chemistry, microbiology, and the
 18 other requisite fields to form the Scientific Advisory Panel for OCWD SARWQH Study.
 19 The Scientific Advisory Panel met annually during the study to review the results and
 20 provide recommendations on future work. The panel also prepared a final report (Exhibit
 21 OCWD 1-22). The panel's report states:

22 "Based on the scientific data collected during the SARWQH Study, the Panel found
 23 that:

- 24 • The SAR met all water-quality standards and guidelines that have been
- 25 published for inorganic and organic contaminants in drinking water.
- 26 • No chemicals of wastewater origin were identified at concentrations that are

27 ²⁰ OCWD. 2004. *Final Report, Santa Ana River Water Quality and Health Study*.
 28

1 of public health concern in the SAR, in water in the infiltration basins, or in
2 nearby groundwaters.

3 The constituents that were considered included non-regulated chemicals (e.g.,
4 pharmaceutically active chemicals) and contaminants of concern that arose during
5 the course of the SARWQH study (e.g., N-nitrosodimethylamine [NDMA]).

6 The unprecedented classification of the major components of DOC and the
7 transformations that occur within these chemical classes as water moves
8 downstream and into the aquifer provided significant new evidence to support the
9 conclusion that the product water is suitable for potable consumption and is also
10 becoming comparable to other sources of drinking water, such as the Colorado
11 River, in its organic profile."²¹

12 55. To support ongoing water quality assessments, OCWD has a Water Quality
13 Department with 10 staff members that collect samples from over 500 wells across the
14 groundwater basin. OCWD's Water Quality Department also collects samples from the
15 SAR and key tributaries to the SAR. OCWD also has a Laboratory Department staffed
16 with 24 chemists and technicians that conduct over 300,000 water quality analyses per year.
17 OCWD has also finished final design and is bidding construction of a new 41,000 square
18 foot water quality laboratory. The total cost of the new laboratory is estimated to be \$24
19 million.

20 56. Over the last 20 years, OCWD has invested \$92 million in recharge
21 enhancement projects in Anaheim and Orange to increase recharge of the SAR. OCWD
22 has also invested \$9 million dollars in the Prado Basin to improve water quality, provide for
23 temporary water storage by the Army Corps, and enhance natural resources. These
24 program investments, together with the Groundwater Replenishment System and other
25 OCWD projects, allow OCWD to maximize the beneficial use of the SAR, protect water

26 _____
27 ²¹ NWRI. 2004. *Report of the Scientific Advisory Panel, OCWD's Santa Ana River Water*
28 *Quality and Health Study*.

1 quality, and provide an additional use of SAR water before it is discharged to the Pacific
 2 Ocean. Like most of OCWD's programs, these efforts are funded with revenues OCWD
 3 collects from the basin producers, in the form of the Replenishment Assessment and Basin
 4 Equity Assessment.

5 VII. OCWD'S FUTURE PROJECTS TO MAXIMIZE USE OF THE SAR.

6 57. OCWD has a program consisting of short-term and long-term projects to
 7 increase recharge of the SAR. The projects include enhancements to OCWD's existing
 8 facilities, new recharge facilities, and increased water storage. Implementation of these
 9 projects will leverage OCWD's previous investments by increasing the efficiency of
 10 existing facilities. Implementation will also allow OCWD to recharge up to 505,000 AFA.
 11 Projects to expand storage and recharge are included in the future projects, since increased
 12 recharge capacity is needed to drain the new storage as quickly as possible. By draining
 13 stored water as quickly as possible, new storage space is created for subsequent storms.

14 58. The increased diversions and the proposed recharge and storage facilities
 15 provide an opportunity for the District to achieve the following project objectives:

- 16 • Protect beneficial uses of the Orange County Groundwater Basin;
- 17 • Improve the reliability of local groundwater supply to serve local water
- 18 demands;
- 19 • Maximize sustainable water supplies during drought periods;
- 20 • Increase the sustainable yield of the Orange County Groundwater Basin in a
- 21 cost effective manner to maximize the use of local water supplies to serve
- 22 local water demands;
- 23 • Improve beneficial use of local water supplies;
- 24 • Reduce dependence on imported water; and
- 25 • Increase operational flexibility by increasing both recharge capacity and
- 26 recharge location options to better manage groundwater basin conditions.

27 59. OCWD's future projects to maximize the use of the SAR and their CEQA
 28 coverage are listed in Table 2. All the projects have undergone program-level CEQA

600278517v1

24

DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD 1-1

OCWD-MTBE-001-199701

1 analysis, as set forth in the OCWD Application to Appropriate SAR Water Program EIR
 2 (State Clearinghouse No. 2002081024) certified by the OCWD Board of Directors in July
 3 2006. OCWD prepared a draft EIR, and circulated it for comments. Based on comments
 4 received, OCWD recirculated the draft EIR. OCWD prepared responses to the comments
 5 and a Mitigation Monitoring and Reporting Program, and certified the Final EIR in July
 6 2006. This Final EIR is Exhibit OCWD 1-23.²² OCWD also prepared a Project Summary
 7 Report for the EIR, which is Exhibit OCWD 1-24. OCWD also completed project-level
 8 CEQA analyses on six additional projects in 2006 and 2007. These projects are:

- 9 • La Jolla Recharge Basin (EIR certified in May 2006; this EIR is Exhibit
 10 OCWD 1-25);
- 11 • Anaheim Lake BCV (Categorical exemption adopted in 2007);²³
- 12 • Kraemer Basin BCV (Categorical exemption adopted in 2007);
- 13 • Increased water conservation at Prado Dam – Prado Basin Water
 14 Conservation Feasibility Study EIR (EIR certified in August 2006; this EIR
 15 is Exhibit OCWD 1-27);
- 16 • Burris Pit BCV (Categorical exemption adopted in 2007); and
- 17 • Bond Pit BCV (Categorical exemption adopted in 2007).

18 60. At this time, ten of the projects listed in Table 2 have undergone project-
 19 level CEQA analysis. With these ten projects and the 14,000 AFA recharge capacity
 20 attributed to the Santiago Creek Replenishment and River View Recharge Basin Projects
 21 that have completed project-level CEQA and been implemented since the OCWD
 22 application to appropriate was submitted, an additional 112,000 AFA of recharge capacity
 23 has undergone project-level CEQA analysis. As indicated in Table 2, when OCWD's
 24 _____

25 ²² The CEQA documentation for prior OCWD projects is included in this EIR under
 26 Appendix M, except for a Negative Declaration for Prado Wetlands Reconstruction,
 Exhibit OCWD 1-32.

27 ²³ The categorical exemption for the four BCVs in Anaheim Lake, Kraemer Basin, Burris
 28 Pit, and Bond Pit is Exhibit OCWD 1-26.

1 application to appropriate was submitted, OCWD's existing facilities recharge capacity was
2 250,000 AFA. Combining OCWD's recharge capacity when the application to appropriate
3 was filed and ten new projects with project-level CEQA, 362,000 AFA recharge capacity
4 has undergone project-level CEQA review. OCWD's remaining projects have undergone
5 program-level review, and project-level review will follow as the projects move into
6 development.

7 ///

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600278517v1

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DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD 1-1

OCWD-MTBE-001-199703

TABLE 2
SUMMARY OF NEAR-TERM AND LONG-TERM PROJECTS

		Recharge (Diversion) Capacity (AF/Y)	Storage Capacity (AF) *	CEQA Coverage
Near-Term Projects				
1	La Jolla Recharge Basin	9,000		La Jolla Recharge Basin EIR, SCH No. 2003041190, certified in May 2006
2	Mira Loma Recharge Basin	10,000		EIR to be prepared in future
3	Santiago Creek Expanded Recharge	3,000		OCWD Application to Appropriate SAR Water EIR, SCH No. 2002081024, certified in July 2006
4	Anaheim Lake Expanded Recharge	2,000		OCWD Application to Appropriate SAR Water EIR, SCH No. 2002081024, certified in July 2006
5	Basin Cleaning Vehicles ¹ [BCV] Anaheim Lake	18,000		Categorical exemption adopted April 2007
6	Kraemer Basin	18,000		Categorical exemption adopted April 2007
7	Miller Basin **	7,000		Categorical exemption adopted May 2003
8	Weir Pond #3 **	8,000		Categorical exemption adopted May 2003
9	Five Coves **	8,000		Categorical exemption adopted May 2003
10	Prado Dam (Flood season 498 feet) ²		10,000	Prado Basin Water Conservation Feasibility Study EIR SCH No. 2004051004 certified in August 2006
	Subtotal	97,000⁴	10,000	
Long-Term Projects				
11	Prado Dam (Conservation elev. = 514) ²		23,600	Program-level review of additional long-term recharge basins and storage facilities provided in OCWD Application to Appropriate SAR Water EIR, SCH No. 2002081024. Additional project-level CEQA to be provided in future as appropriate.
12	Fletcher Recharge Basin	1,000		
13	Additional Recharge Basins ³	77,000		
14	Basin Cleaning Vehicle Burris Pit	15,000		Categorical Exemption adopted April 2007
15	Bond Pit	10,000		Categorical Exemption adopted April 2007
16	Subsurface Collection/ Recharge System (SCARS) – Multiple Sites	10,000		Program-level review of additional long-term recharge basins and storage facilities provided in OCWD Application to Appropriate SAR Water EIR, SCH No. 2002081024. Additional project-level CEQA to be provided in future as appropriate.
17	Deep Basin Filtration Recharge – 3 sites	25,000		
18	Recharge Galleries – 2 sites	20,000		
19	Gypsum Canyon Reservoir ²		30,000	
20	Aliso Canyon Reservoir ²		30,000	
	Subtotal	158,000	83,600	
	Existing Facilities When Application Submitted	250,000		
	Total	505,000	93,600	

600278517v1

27

DIRECT TESTIMONY OF CRAIG D. MILLER, P.E.

Exhibit OCWD 1-1

OCWD-MTBE-001-199704

1 Notes for Table 2

2 ¹ Deep Basin continuous cleaning device will increase percolation rates.

3 ² Storm flows captured for later release to the SAR for diversion downstream at recharge facilities when capacity becomes available.

4 ³ 150 acres total – multiple sites.

5 ⁴ Includes 14,000 af attributed to Santiago Creek Replenishment and River View Recharge Basin projects that have been implemented since the application was submitted.

6 * Denotes size of reservoir. Reservoirs may be filled and drained multiple times per year.

7 ** OCWD has completed separate CEQA review and these projects are in development.

8 **VIII. PRIOR WATER RIGHTS.**

9 61. Historically OCWD's operations have been based on rights to use Santa Ana
10 River ("SAR") water which arose as early as the mid-1800's. At the time that OCWD was
11 formed, the Anaheim Union Water Company ("AUWC") and the Santa Ana Valley
12 Irrigation Company ("SAVI") owned pre-1914 water rights dating back to the 1870s, which
13 entitled each of them to take one-half of the normal surface flow of the SAR below the
14 present location of Prado Dam.²⁴ They each also held licenses to divert 6.1 cfs of water
15 from the SAR from June 1 through December 1 of each year. AUWC possessed License
16 6378 for diversion and use of SAR water. Exhibit OCWD 1-28. SAVI possessed License
17 6403 for diversion and use of SAR water. Exhibit OCWD 1-29. As those exhibits show,
18 OCWD acquired the water rights held by AUWC and SAVI by condemnation of AUWC's
19 water rights in 1967 and purchase of SAVI's water rights in 1968. It thereby acquired the
20 license rights and pre-1914 rights to divert the surface flow of the SAR once it reaches
21 Prado Dam.

22 62. In order to resolve conflicting demands for water in the watershed, in 1963
23 OCWD filed an action to obtain an adjudication of water rights against substantially all
24 water users in the area tributary to Prado Dam. Thirteen cross-complaints were filed in
25 1968, by which this adjudication was extended to substantially all water users within the
26 SAR watershed. It soon became apparent to the Court and the parties that rather than
27 define the rights of all parties in the watershed, it was necessary to develop a "physical
28

²⁴ See Orange County Water District vs. City of Riverside (1959) 173 Cal. App. 2d 137, 175; Yorba vs. Anaheim Union Water Company (1953) 41 Cal. 2d 265, 272.

1 solution" which would meet the needs of all parties. The parties negotiated and stipulated
 2 to such a settlement, which was embodied in a Judgment, commonly called the "1969
 3 Judgment", entered in the case of OCWD v. City of Chino, et al. by the Court on April 17,
 4 1969 (Case No. 117628) (Exhibit OCWD 1-30). Said physical solution accomplishes a
 5 general inter-basin allocation of the natural water supply of the Santa Ana River
 6 system . . . ,"²⁵ allotting to OCWD a guaranteed minimum of 42,000 AFA of base flow at
 7 Prado Dam, subject to certain water quality criteria, plus all of the storm flow that reaches
 8 Prado. The great merit of this physical solution lies in the fact that flows in the upper
 9 watershed, after being used and re-used as necessary, ultimately flow downstream to Prado,
 10 where OCWD can capture, clean and re-use the water again.

11 63. In 1961, OCWD obtained License Nos. 006378 and 006403, each to divert
 12 6.1 CFS. These licenses were premised on salvage, based on clearing phreatophytes from
 13 the stream above Prado Dam. OCWD 1-31.

14 64. In 1969, OCWD became party to the Stipulated Judgment which, along with
 15 related documents, is described in the April 5, 2007 Stipulation submitted to the State
 16 Water Resources Control Board for these proceedings.

17 IX. PROTEST RESOLUTION STATUS.

18 65. All of the active protests to OCWD's Application have been resolved.

19 66. Protests to OCWD's Application were submitted to the State Board by
 20 (1) the California Sportfishing Protection Alliance ("CSPA") on February 18, 2002; (2) the
 21 City of San Bernardino Municipal Water Department ("SBMWD") on July 15, 2002;
 22 (3) East Valley Water District ("EVWD") on July 16, 2002; (4) the City of Redlands on
 23 July 16, 2002; (5) the Orange County Flood Control District, San Bernardino Flood Control
 24 District, and Riverside County Flood Control and Water Conservation District (collectively,
 25 "Local Sponsors") on July 16, 2002; (6) the City of Riverside on July 17, 2003; (7) the

26 _____
 27 ²⁵ Exhibit OCWD 1-30, Stipulation and Order Re Dismissal of Certain Defendants, p. 4,
 28 lines 12-13.



Craig D. Miller, P.E.

EXHIBIT 4

1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK

3 MDL No. 1358 (SAS)

X

4 In re: Methyl Tertiary Butyl Ether
5 ("MTBE") Products Liability Litigation

6 X

7 This Document Relates to:

8 Orange County Water District v. Unocal
9 Corporation, et al.

10 Case No. 04 Civ. 4968 (SAS)

11 X

12 CONFIDENTIAL - PER 2004 MDL 1358 ORDER

13 VIDEOTAPED DEPOSITION OF

14 TIM SOVICH

15 August 25, 2010

16
17 Taken at The Law Offices of Latham &
18 Watkins, LLP, 650 Town Center Drive, 20th Floor,
19 Costa Mesa, California, before Harry A. Palter,
20 California Certified Shorthand Reporter No. 7708,
21 Certified LiveNote Reporter.

22
23
24 GOLKOW TECHNOLOGIES, INC.
25 887.370.3377 ph|917.591.5672 fax
deps@golkow.com

1 A. Yeah.

2 So really, that was the main purpose
3 of developing that 7-layer model.

4 CDM had gotten the contract to
5 design all the facilities for our Groundwater
6 Replenishment System. And they're also a very
7 reputable modeling firm. They're nationwide;
8 they have modelers in various offices around the
9 country, so we thought it was best, just as part
10 of the GWRS contract, to have the modeling be a
11 subcontract of that -- of that same work. So
12 that's why we had CDM do the work.

13 But really, we -- the main purpose
14 of building that model was to determine how much
15 additional Barrier capacity we needed to hold
16 back seawater.

17 BY MR. COX:

18 Q. Okay.

19 And GWRS refers to groundwater --

20 A. Replenishment --

21 Q. -- replenishment --

22 THE REPORTER: Sir, you
23 really need to be one at a time.

24 BY MR. COX:

25 Q. And GWRS refers to Groundwater

1 Replenishment System?

2 A. Yes.

3 Q. All right.

4 And as of 1999 to 2000, was the
5 Groundwater Replenishment System -- was Water
6 Factory 21 part of the Groundwater Replacement
7 System in that time period?

8 MR. MILLER: Counsel,
9 you're mixing up two terms, and
10 it's going to cause problems.

11 MR. COX: Okay.

12 Well, let me -- maybe we
13 can do this with pictures.

14 I'm going to direct the
15 witness to page 438 of Exhibit 1.

16 BY MR. COX:

17 Q. And at the top of the page, do you
18 see the reference to GWRs?

19 A. Yes.

20 Q. What is that referring to?

21 A. The Groundwater Replenishment
22 System. The new treatment plant that was built
23 in the recent years.

24 Water Factory 21 was the old
25 treatment plant that was demolished prior to

1 building GWRS.

2 Q. So by 2008, certainly, GWRS is
3 built?

4 A. GWRS came online to where we were
5 fully injecting into the Barrier in January of
6 2008.

7 Q. Okay.

8 And before that, there was a Water
9 Factory facility that was demolished?

10 A. Yes.

11 Water Factory 21 came online in
12 1976.

13 I don't recall the precise year they
14 started demolishing it. It may have been in the
15 2004 range.

16 And there was approximately one or
17 two years where we had an interim Water Factory
18 21, which is a reduced capacity of about 5 MGD.

19 Q. Okay.

20 And how was the CDM 7-layer
21 transient model used in connection with the GWRS
22 project development?

23 MR. MILLER: It's
24 overbroad. Calls for a narrative.

25 If that's enough of a

EXHIBIT 5

1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK

X

3 In re: Methyl Tertiary Butyl Ether
4 ("MTBE") Products Liability Litigation

X

5
6 Master File No. 1:00-1898

7 MDL No. 1358 (SAS)

8 M21-88

X

9
10 CONFIDENTIAL (Per 2004 MDL 1358 Order)

11 VIDEOTAPED 30(b)(6) DEPOSITION OF

12 ROY L. HERNDON

13 December 2, 2008

14
15 Taken at 650 Town Center Drive,
16 20th Floor, Costa Mesa, California, before
17 Harry A. Palter, California Certified
18 Shorthand Reporter No. 7708, Certified
19 LiveNote Reporter.

20
21
22 GOLKOW TECHNOLOGIES, INC.

23 877.370.3377 ph|917.591.5672 fax

24 deps@golkow.com

1 What is the nature of the
2 District's relationship with the State Water
3 Resources Control Board?

4 A. The District --

5 MR. AXLINE: I'm going to
6 object to that as vague.

7 You can answer it, if you
8 understand it.

9 THE WITNESS: Sure.

10 Well, I understand they're
11 a regulatory agency that in some
12 manner is over the Santa Ana
13 Regional Water Quality Control
14 Board.

15 The District has interacted
16 with the State Water Resources
17 Control Board, among other things,
18 in applying for a water-rights
19 permit for diversion of Santa Ana
20 River water.

21 BY MR. HEARTNEY:

22 Q. All right.

23 On what issues has the District
24 collaborated with the State Water Resources
25

1 information to them.

2 And as far as I could tell
3 from my experience, they listened
4 and received that information
5 appropriately.

6 BY MR. HEARTNEY:

7 Q. Your own interactions with
8 them -- they showed themselves to be
9 knowledgeable as to the issues involved,
10 would you say?

11 MR. AXLINE: Objection.

12 Vague as -- issues
13 involved.

14 BY MR. HEARTNEY:

15 Q. The water permit --
16 water-rights permit issues.

17 A. They most -- there wasn't a lot
18 of interaction.

19 It was mostly them listening,
20 so I didn't necessarily get a sense, one way
21 or the other, of their degree of knowledge.

22 Q. Has the State Water Resources
23 Control Board taken any actions, one way or
24 the other, on the District's application for
25

1 water rights permit allowing the diversion of
2 Santa Ana River water?

3 A. Yes.

4 Q. What action did it take?

5 A. I believe just recently they
6 took an action to approve or authorize the
7 District to appropriate -- provide a
8 water-rights permit.

9 Q. And did they provide a
10 statement of reasons with that?

11 A. I don't know.

12 I haven't seen the final
13 action.

14 Q. Okay.

15 As to the Santa Ana Regional
16 Water Quality Control Board, what is the
17 nature of the District's relationship or
18 collaboration with that body?

19 A. I think I've already answered
20 that question in prior depositions.

21 Q. I don't think you have.

22 A. I think I have.

23 Q. You may think you have, but I'm
24 asking the question now.

25



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Rights

1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
P.O. Box 2000 ♦ Sacramento, California 95812-2000
Fax: 916.341.5400 ♦ www.waterboards.ca.gov/waterrights



Arnold Schwarzenegger
Governor

JUN 30 2009

Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

RECEIVED

JUL 07 2009

ACCOUNTING DEPT

In Reply Refer
to: 31174A

PERMIT 21243 (APPLICATION 31174A), SANTA ANA RIVER TRIBUTARY TO PACIFIC OCEAN, IN ORANGE AND RIVERSIDE COUNTIES

Your WATER RIGHT PERMIT is enclosed. Please note that, with respect to other water rights attaching to this source, the priority of your right is identified by the filing date of your application. Therefore, in times of water shortage, those diverters with water rights senior to yours can take their water first. Additional limitations on your diversion and use of water are specified by the terms of this permit. Please read the terms and conditions of your permit carefully so that you are familiar with your responsibilities as an appropriator of water.

The State Water Resources Control Board (State Water Board) requires that you submit annual reports showing the progress you have made in the construction of your project and the use of water made under this permit that will qualify for licensing purposes. We will mail the forms to you when the reports are due.

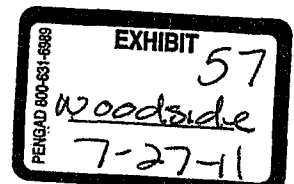
Annual permit fees are required. The California Board of Equalization will mail you a Notice of Determination (billing) on behalf of the State Water Board when the fee is due. Please pay the fee promptly. Nonpayment of the fee may result in revocation of your permit.

You must comply with all of the conditions in your permit. The State Water Board will not issue a license for any water diverted and used for any purpose or at any place not authorized in the permit. Nor will the State Water Board credit you for any development or use that occurs after the date specified in the permit unless you request and receive an extension of time to use the water. An extension of time to continue development of a project requires public noticing and reevaluation of then-current environmental considerations, and is becoming considerably more difficult to obtain.

After the project has been completed, an inspection will be made to determine the amount of water that has been placed to beneficial use within the terms of the permit. A license will then be issued confirming a right to that amount of water. Please keep sufficient records of your diversion and use of water to facilitate this process.

Please inform us of any changes in address or ownership. The State Water Board will mail all notices, including fee notices, to the most recent address supplied. The regulations require a water right holder to immediately file a statement informing the State Water Board of any change in ownership of the application, permit, or license. The statement shall refer to the number of the water right, and identify the name and address of the new owner. This is important because failure to supply this information could result in your liability to pay water right fees, including penalty and interest for late payment, even after you have sold the property

California Environmental Protection Agency



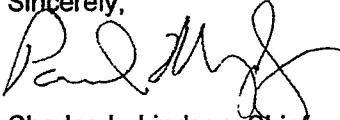
- 2 -

JUN 30 2009

served by the water right. Change in name/address or ownership forms are available at the Division of Water Rights' website, www.waterboards.ca.gov/waterrights.

Should you have any questions regarding this matter, please contact Jean McCue at (916) 341-5351.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul M. J.", is written over the typed name.

For Charles L. Lindsay, Chief
Hearings Unit

Enclosure

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 21243

Application 31174A of

Orange County Water District
18700 Ward Street
Fountain Valley, California 92708

filed on November 5, 1992, has been approved by the State Water Resources Control Board (State Water Board or Board) SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source of water

Source:

Tributary to:

Santa Ana River

Pacific Ocean

within the Counties of Orange and Riverside.

2. Location of points of diversion (POD). Points 2 – 8 are also points of redirection.

By California Coordinate System of 1983, Zone 6	40-acre subdivision of public land survey or projection thereof	Section (Projected)	Township	Range	Base and Meridian
POD #1: River Road North 2,281,879 ft. and East 6,152,300 ft.	NW¼ of SE¼	10	03S	07W	SB
POD #2: Imperial Inflatable Dam North 2,258,721 ft. and East 6,090,696 ft.	NW¼ of NW¼	2	04S	09W	SB
POD #3: Below Lakeview North 2,258,463 ft. and East 6,085,460 ft.	SW¼ of NW¼	3	04S	09W	SB
POD #4: Below Tustin Avenue North 2,255,551 ft. and East 6,077,538 ft.	SW¼ of SE¼	5	04S	09W	SB

Application 31174A
Page 2 of 7

Permit 21243

POD #5: Five Coves Inflatable Dam North 2,253,771 ft. and East 6,073,539 ft.	NE¼ of NE¼	7	04S	09W	SB
POD #6: East of Glassell Street North 2,253,426 ft. and East 6,073,169 ft.	SW¼ of NE¼	7	04S	09W	SB
POD #7: Diversion through Santa Ana River Bottom North 2,258,982 feet East 6,093,998 feet thence various instream percolation areas downstream to North 2,244,471 feet East 6,069,748 feet	NW¼ of NE¼	2	04S	09W	SB
	NW¼ of NW¼	19	04S	09W	SB
POD #8: Prado Dam North 2,270,767 ft. and East 6,138,417 ft.	SW¼ of SW¼	20	03S	07W	SB

3. Purpose of use	4. Place of use	Section (Projected)	Township	Range	Base and Meridian	Acres
Municipal, Industrial, Recreational, Fish and Wildlife Preservation and Enhancement	Within the Area overlying the Orange County Groundwater Basin.*					

*The place of use is shown on map dated April 27, 2009, and filed with the State Water Board.

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 362,000 acre-feet per annum to be collected to a combination of underground storage and/or surface storage from January 1 to December 31 of each year. The maximum rate of diversion to underground storage via points of diversion 2 through 7 shall not exceed 1,670 cubic feet per second.

(0000005H)

6. The amount authorized for appropriation may be reduced in the license if investigation warrants.

(0000006)

Application 31174A
Page 3 of 7

Permit 21243

7. Construction work and the application of water to beneficial use shall be prosecuted with reasonable diligence and be completed by December 31, 2057.
(0000009)
8. Progress reports shall be submitted promptly by permittee when requested by the State Water Board until a license is issued.
(0000010)
9. Permittee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by said State Water Board, reasonable access to project works to determine compliance with the terms of this permit.
(0000011)
10. Pursuant to California Water Code sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of Permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the Permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Board if, after notice to the Permittee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

12. This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & Game Code, §§ 2050-2097) or the federal Endangered

Application 31174A
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Permit 21243

Species Act (16 U.S.C.A. §§ 1531-1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.

(0000014)

13. Permittee shall maintain records of the amount of water diverted and used to enable the State Water Board to determine the amount of water that has been applied to beneficial use pursuant to Water Code section 1605.

(0000015)

14. Permittee shall consult with the Division of Water Rights and develop and implement a water conservation plan or actions. The proposed plan or actions shall be presented to the State Water Board for approval within one year from the date of this permit or such further time as, for good cause shown, may be allowed by the Board. A progress report on the development of a water conservation program may be required by the Board at any time within this period. All cost-effective measures identified in the water conservation program shall be implemented in accordance with the schedule for implementation found therein.

(0000029A)

15. If it is determined after permit issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany the application, Permittee shall, at his expense, have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the state of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, Title 23. Said revision(s) or map(s) shall be furnished upon request of the Deputy Director for Water Rights.

(0000030)

16. No work shall commence and no water shall be diverted, stored or used under this permit until a copy of a stream or lake alteration agreement between the California Department of Fish and Game (CDFG) and Permittee is filed with the Division of Water Rights. Compliance with the terms and conditions of the agreement is the responsibility of Permittee. If a stream or lake agreement is not necessary for this permitted project, Permittee shall provide the Division of Water Rights a copy of a waiver signed by CDFG.

(0000063)

17. In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction, permittee shall file a report pursuant to Water Code Section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, Santa Ana Region, or by the State Board.

(0000100)

18. Prior to diversion of water under this permit, Permittee shall (1) install devices to measure the quantities of water placed into underground storage and (2) install devices to measure or provide documentation of the method to be used to determine the quantity of water recovered from underground storage and placed to beneficial use. All measuring devices and the method of determining the quantity of water recovered from underground storage shall be approved by the State Water Board prior to diversion of water under this permit. All measuring devices shall be properly maintained.

(0080117)

19. The Permittee shall obtain all necessary state and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Deputy Director for Water Rights.

(0000203)

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Page 5 of 7

Permit 21243

20. No debris, soil, silt, cement that has not set, oil, or other such foreign substance will be allowed to enter into or be placed where it may be washed by rainfall runoff into the waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area.

(0000208)

21. Prior to implementing the project, Permittee will conduct a Phase I Site Assessment for hazardous waste and soil contamination for the portion of Santiago Creek between Hart Park and the Santa Ana River. Permittee shall comply with recommendations in the Site Assessment to avoid transporting contamination.

If the Site Assessment identifies the potential for contaminated soils to be transported by the project, Permittee will redesign the project to avoid this area or remediate the contamination so that no adjacent properties or the groundwater basin would be adversely affected.

(0400500)

22. Permittee will notify the owners of active production wells within 500 feet of the lower reach of Santiago Creek between Hart Park and the Santa Ana River of its intent to increase recharge of groundwater within Santiago Creek. In coordination with these well owners, Permittee will develop and implement a groundwater monitoring plan similar to the existing plan for the upper reach of the creek that will provide early detection of changes to groundwater chemistry resulting from the project. If the monitoring plan identifies adverse effects to water chemistry, the State Water Board Deputy Director for Water Rights will be notified. The results from periodic groundwater monitoring will be submitted to the Santa Ana Regional Water Quality Control Board.

(0400500)

23. The State Water Board adopts and incorporates by reference into this permit the hydrology and water resources and reporting requirements identified in the Final EIR, specifically Mitigation Measures M-HYDRO-1, M-HYDRO-2, M-HYDRO-3, M-HYDRO-4, M-HYDRO-5, and M-HYDRO-6 (see the attached Table 1). Permittee must implement the measures to mitigate significant impacts to water quality resources and conduct the required reporting and monitoring of those measures. The State Water Board reserves jurisdiction to require any reasonable amendments to these measures and requirements necessary to ensure that they will accomplish the stated goal.

(0400500)

24. The State Water Board adopts and incorporates by reference into this permit the mitigation, monitoring, and reporting requirements applicable to biological resources identified in the Final PEIR, specifically Mitigation Measures M-BIO-1, M-BIO-2, M-BIO-3, M-BIO-4, M-BIO-5, and M-BIO-6 (see the attached Table 1). Permittee must implement the measures to mitigate significant impacts to biological resources and conduct the required reporting and monitoring of those measures. The State Water Board reserves jurisdiction to require any reasonable amendments to these measures and requirements to ensure that they will accomplish the stated goal.

(0400500)

25. The State Water Board adopts and incorporates by reference into this permit the mitigation, monitoring, and reporting requirements applicable to cultural resources and hazardous materials identified in the Final PEIR, specifically Mitigation Measures M-CULT-1, M-CULT-2, M-CULT-3, M-HAZ-1, and M-HAZ-2 (see the attached Table 1). Permittee must implement the measures to mitigate significant impacts to cultural resources and hazardous materials, and must conduct the required reporting and monitoring of those measures. The State Water Board reserves jurisdiction to require any reasonable amendments to these measures and requirements to ensure that they will accomplish the stated goal.

(0400500)

a. Come into compliance, no later than December 31, 2011, with all terms of the September 26, 2006 settlement agreement between Permittee and CDFG, as follows:

- (i) Assess sites for Santa Ana sucker (*Catostomus santaanae*) (sucker) re-introduction within the Santa Ana River watershed.
- (ii) Submit a reintroduction and monitoring plan for CDFG and State Water Board Deputy Director for Water Rights (Deputy Director) review and approval. The monitoring plan shall include site specific location information with mapped GIS points, photos and annual reports.
- (iii) Implement sucker re-introduction and monitoring at CDFG approved sites within the Santa Ana River.
- (iv) Assess sites for experimental sucker habitat restoration above River Road Bridge in the Santa Ana River watershed.
- (v) Submit an experimental sucker habitat restoration and monitoring plan for CDFG and Deputy Director review and approval. The monitoring plan shall include site specific location information with mapped GIS points and photos and annual reports.
- (vi) Implement experimental sucker habitat restoration and monitoring at CDFG approved sites within the Santa Ana River watershed.

b. Comply with all terms and dates set out in such subsequent settlement agreement between Permittee and CDFG as supersedes the September 26, 2006 agreement. The terms and dates of any such subsequent settlement agreement are subject to approval of the Deputy Director.

[illegible]

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Page 7 of 7

Permit 21243

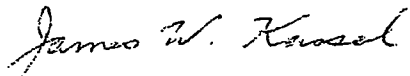
This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

STATE WATER RESOURCES CONTROL BOARD


for Victoria A. Whitney
Deputy Director for Water Rights

Dated: JUN 30 2009

Attachment

EXHIBIT 6

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

-----X

**In re: Methyl Tertiary Butyl Ether ("MTBE")
Products Liability Litigation**

This Document Relates To:

ORANGE COUNTY WATER DISTRICT,

Plaintiff,

vs.

UNOCAL CORPORATION, INDIVIDUALLY AND FORMERLY KNOWN AS UNION OIL COMPANY OF CALIFORNIA; UNION OIL COMPANY OF CALIFORNIA, INDIVIDUALLY AND DBA UNOCAL [DOE 1]; TOSCO CORPORATION; CONOCOPHILLIPS COMPANY; CHEVRON U.S.A. INC., individually and doing business as CHEVRON PRODUCTS COMPANY AND CHEVRON CHEMICAL COMPANY; CHEVRONTEXACO CORPORATION; TEXACO REFINING AND MARKETING INC., now known as TMR COMPANY; EQUILON ENTERPRISES LLC; SHELL OIL COMPANY, individually and doing business as SHELL OIL PRODUCTS US; EXXON MOBIL CORPORATION, individually and formerly known as EXXON CORPORATION, and doing business as EXXONMOBIL REFINING AND SUPPLY COMPANY, EXXON CHEMICAL U.S.A., and EXXONMOBIL CHEMICAL CORPORATION; MOBIL CORPORATION; ULTRAMAR, INC; VALERO REFINING COMPANY - CALIFORNIA; VALERO MARKETING AND SUPPLY COMPANY [DOE 2]; ATLANTIC RICHFIELD COMPANY, individually and doing business as ARCO PRODUCTS COMPANY (formerly known as ARCO PETROLEUM COMPANY) and also known as

Master File C.A. No. 1:00-Civ.
1898

MDL No 1358 (SAS)

Case No. 04 Civ. 4968 (SAS)

Transferred from:
United States District Court for
the Central District of California,
Santa Ana Division,
Case No. SACV 03-1742 JVS
(ANx)

Removed from:
Superior Court of California,
County of Orange,
Case No. 03CC00176

**THIRD AMENDED
COMPLAINT**

JURY TRIAL DEMANDED

surface. Because of the distance, relatively low precipitation rates, and potential presence of intermittent clay layers which retard downward movement, there may be a significant delay between the release of gasoline and its occurrence in groundwater.

2. The defendants in this action are the designers, formulators, manufacturers, refiners, promoters, marketers, distributors, suppliers, and retailers of the MTBE and TBA and gasoline containing MTBE and TBA that contaminates and pollutes groundwater resources replenished and managed by the District. Defendants knowingly and willfully promoted and marketed MTBE and TBA and gasoline containing MTBE and TBA, when they knew or reasonably should have known that these compounds would reach groundwater, pollute public water supplies, render drinking water unusable and unsafe, and threaten the public health and welfare as they have done within the District.

3. The District files this lawsuit to recover compensatory and all other damages, including all necessary funds to investigate, monitor, prevent, abate, or contain any contamination of, or pollution to, groundwaters within the District from MTBE and TBA; to protect the quality of the common water supplies of the District; to prevent pollution or contamination of that water supply; and to assure that the responsible parties -- and not the District nor the public -- bear the expense.

II. PLAINTIFF.

4. The District is a special water agency created by the Legislature in 1933 to maintain, replenish, and manage groundwater resources. The Legislature expressly granted the District the right, and duty, among other things, to conduct any investigations of the quality of the groundwaters within the district to determine whether those waters are contaminated or polluted,

and to perform any necessary investigation, cleanup, abatement, or remedial work to prevent, abate, or contain any threatened or existing contamination or pollution of the surface or groundwaters of the district, and recover the costs of any such activities from the persons responsible for the contamination or threatened contamination. (Cal. Water Code App. § 40-8). The District has suffered injury in fact, including expending funds necessary to investigate, clean up, abate, and/or remediate the MTBE and/or TBA contamination caused by Defendants.

5. The Legislature has also expressly granted the District the right, and duty, among other things, to litigate in order to protect groundwater resources and to represent the rights of water users within its territory. In particular, the District has the right, and duty, to commence, maintain, intervene in and compromise any and all actions and proceedings to prevent interference with water or water rights used or useful to lands within the district, or diminution of the quantity or pollution or contamination of the water supply of the district, or to prevent any interference with the water or water rights used or useful in the district which may endanger or damage the inhabitants, lands or use of water in the district. (Cal. Water Code App. § 40-2). The District owns land overlying groundwater at various locations within the District and has water rights therein. Water users within the District pump at least 320,000 acre-feet of groundwater each year. There are over four hundred confirmed MTBE release sites in the District contaminating and threatening the water supplies of overlying owners and other water users within the District. The District and the water users it represents have suffered injury in fact as a result of MTBE and/or TBA contamination and threat of contamination in water supply wells in the District's groundwater resources.

99. The District has not consented to and does not consent to this nuisance.

Defendants, and each of them, knew or should have known, that the District would not consent to this nuisance.

100. As a direct and proximate result of the nuisance, the District has been damaged within the past three years and is entitled to the compensatory and exemplary damages alleged herein, or to such other appropriate relief the District may elect at trial, including, but not limited to, equitable relief in the form of an order requiring Defendants to abate the nuisance properly as to the District.

101. For the reasons alleged in paragraphs 74 through 75, the District is entitled to an award of exemplary and punitive damages against defendants Chevron U.S.A. Inc.; ChevronTexaco Corporation; Texaco Refining and Marketing Inc.; Equilon Enterprises LLC; Shell Oil Company; ConocoPhillips Company; Unocal Corporation; Union Oil Company of California; Tosco Corporation; Exxon Mobil Corporation; Mobil Corporation; Ultramar, Inc.; Valero Refining Company - California; Valero Marketing and Supply Company; Atlantic Richfield Company; BP Products North America, Inc.; ARCO Chemical Company; and Lyondell Chemical Company.

FIFTH CAUSE OF ACTION

(Orange County Water District Act Claim Against All Defendants)

102. The District refers to paragraphs 1 through 101 above, and by this reference incorporates them as though set forth in full.

103. Defendants, and each of them, have caused and are causing the District to conduct investigations of the quality of the groundwaters within the District to determine whether those

waters are contaminated or polluted with MTBE and/or TBA, at substantial cost to the District in an amount to be proved at trial.

104. Defendants, and each of them, have caused and are causing the District to perform cleanup, abatement, and/or remedial work needed to prevent, abate, and/or contain threatened or existing contamination of, or pollution to, the groundwaters of the District, all at substantial cost to the District in an amount to be proved at trial.

105. Defendants, and each of them, are causing or threatening to cause MTBE and/or TBA contamination or pollution of groundwater resources within the District. As a direct and proximate result of the acts and omissions of the defendants alleged in this Complaint, the District must initiate a remedial program to assess, evaluate, investigate, monitor, abate, clean up, correct, contain, and/or take other necessary remedial action, all at significant expense, loss, and damage in amounts to be proved at trial.

106. As a further direct and proximate result of the acts and omissions of the defendants alleged in this Complaint, the District, since May 6, 2000, has sustained substantially increased expenses, all to the District's damage in an amount within the jurisdiction of this court. Under Section 8 of the Orange County Water District Act, California Water Code Appendix 40-8, the District is entitled to recover 'reasonable costs actually incurred' since May 6, 2000, together with court costs and reasonable attorneys' fees in this action. The District also seeks declaratory relief with respect to future expenses it may incur.

107. Defendants Chevron U.S.A. Inc.; ChevronTexaco Corporation; Texaco Refining and Marketing Inc.; Equilon Enterprises LLC; Shell Oil Company; ConocoPhillips Company; Unocal Corporation; Union Oil Company of California; Tosco Corporation (after 1996); Exxon

Mobil Corporation; Mobil Corporation; Ultramar, Inc. (after 1996); Valero Refining Company - California; Valero Marketing and Supply Company; Atlantic Richfield Company; BP Products North America, Inc.; ARCO Chemical Company; and Lyondell Chemical Company knew that it was substantially certain that their alleged acts and omissions described above would threaten public health and cause extensive contamination of common water supplies, public drinking water supplies, and property damage. These defendants committed each of the above described acts and omissions knowingly, willfully, and with oppression, fraud, and/or malice and with conscious disregard of the health and safety of others, and of plaintiff's rights.

108. This conduct is reprehensible, despicable, and was performed to promote sales of MTBE and/or TBA and/or gasoline containing MTBE and/or TBA in conscious disregard of the known risks of injury to health and property. Defendants acted with willful and conscious disregard of the probable dangerous consequences of that conduct and its foreseeable impact upon the District. Therefore, the District requests an award of exemplary damages in an amount sufficient to punish defendants Chevron U.S.A. Inc.; ChevronTexaco Corporation; Texaco Refining and Marketing Inc.; Equilon Enterprises LLC; Shell Oil Company; ConocoPhillips Company; Unocal Corporation; Union Oil Company of California; Tosco Corporation; Exxon Mobil Corporation; Mobil Corporation; Ultramar, Inc.; Valero Refining Company - California; Valero Marketing and Supply Company; Atlantic Richfield Company; BP Products North America, Inc.; ARCO Chemical Company; and Lyondell Chemical Company. After the completion of additional investigation and discovery, the District may seek leave of court to amend this Complaint to allege a claim for exemplary damages against additional defendants if warranted by the facts.

District by MTBE and/or TBA.

115. In order to resolve this controversy, Plaintiff seeks an adjudication of the respective rights and obligations of the parties, in conjunction with an award of damages, to the extent necessary to provide full relief to the plaintiff.

PRAYER

WHEREFORE, the District requests judgment against defendants, and each of them, for:

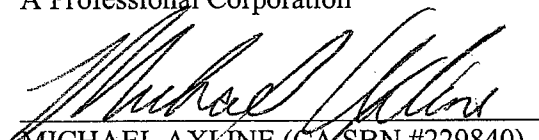
1. Compensatory damages according to proof;
2. Exemplary damages in an amount sufficient to punish defendants Chevron U.S.A. Inc.; ChevronTexaco Corporation; Texaco Refining and Marketing Inc.; Equilon Enterprises LLC; Shell Oil Company; ConocoPhillips Company; Unocal Corporation; Union Oil Company of California; Tosco Corporation; Exxon Mobil Corporation; Mobil Corporation; Ultramar, Inc.; Valero Refining Company - California; Valero Marketing and Supply Company; Atlantic Richfield Company; BP Products North America, Inc.; ARCO Chemical Company; and Lyondell Chemical Company, and to deter those defendants from ever committing the same or similar acts;
3. An order declaring that defendants are liable for the full cost of all remedial and other actions necessary to abate and remove MTBE and/or TBA which is contaminating and threatening the District's property, and for such orders as may be necessary to provide full relief to the plaintiff;
4. An Order declaring that the Owner/Operator Defendants' gasoline delivery systems constitute a nuisance in the manner they are maintained and operated, and compelling them to abate that nuisance;

5. An Order compelling Defendants and each of them to abate the public nuisance proximately caused by their conduct as alleged herein;
6. Attorneys' fees to the full extent permitted by law;
7. Costs incurred in prosecuting this action, and prejudgment interest to the full extent permitted by law; and
8. For such and other further relief as the court may deem just and proper.

Dated: January 31, 2008

MILLER, AXLINE & SAWYER
A Professional Corporation

By:


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ORANGE COUNTY WATER DISTRICT

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Attorneys for Plaintiff
THE PEOPLE OF THE STATE OF CALIFORNIA

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF ORANGE - CENTRAL JUSTICE CENTER

THE PEOPLE OF THE STATE OF
CALIFORNIA

Plaintiff,

vs.

ATLANTIC RICHFIELD COMPANY, a
Delaware corporation doing business as
ARCO; BP AMOCO CORPORATION;
ARCO CHEMICAL COMPANY; LYONDELL
CHEMICAL COMPANY; THRIFTY OIL
COMPANY; and DOES 5 through 200,
inclusive;

Defendants.

Case No. 80-40-30

Assigned for all purposes to:
Judge Jonathan H. Cannon
Department CX102

~~PROPOSED~~ FINAL JUDGMENT
PURSUANT TO STIPULATION AND
ORDER THEREON

FINAL JUDGMENT PURSUANT TO
STIPULATION AND ORDER THEREON

FILED
ORANGE COUNTY SUPERIOR COURT

FEB 11 2003

Clerk of the Court

BY C. HERNANDEZ

1 the conduct of work, or inability to obtain reasonable governmental permits or approval of work.
 2 Settling Defendant must use reasonable efforts to anticipate, and avoid delay that may be caused
 3 by, a force majeure event.

4 5.6 Settling Defendant's obligations hereunder shall terminate five years after the date
 5 of entry of this Final Judgment.

6 7 8 **DISPUTE RESOLUTION**

9 5.7 Except as otherwise expressly stated herein, in the event of a reasonable and bona
 10 fide dispute presented by any of the parties to this Final Judgment, the parties agree that the
 11 dispute will be mediated by a mediator approved by both parties. The costs of said mediator in
 12 connection with the resolution of said dispute shall be borne by Settling Defendant; provided,
 13 however, that after three mediations hereunder, the mediator can allocate the costs of mediation to
 14 Plaintiff if the mediator determines that such an allocation is equitable considering the
 15 reasonableness or unreasonableness of the Plaintiff's (or CONSULTANT's) position on the
 16 matter that was the subject of the dispute. If the parties cannot reach resolution through the
 17 mediator, the dispute shall be submitted to Honorable Jonathan H. Cannon, or his court-appointed
 18 judicial successor, for resolution.
 19

20 **MATTERS COVERED BY THIS FINAL JUDGMENT**

21 6.0 Except for the retained jurisdiction of the court as set forth in Section 6.3 below,
 22 this Final Judgment is a final and binding judgment, release, resolution and settlement of all
 23 claims, violations, or causes of action that were alleged by the First Amended Complaint and
 24 Plaintiff's discovery responses against Settling Defendant, or could have been asserted based on
 25 the facts alleged in the First Amended Complaint and Plaintiff's discovery responses in regards to
 26 the sites listed on Exhibit A. This Final Judgment and the releases contained herein shall be final
 27 and binding against and for the benefit of Settling Defendant and each of its subsidiaries,
 28

1 corporate parents, Affiliates, successors, heirs, assigns, and their respective officers, directors,
2 partners, shareholders, members, employees, representatives, agents, dealers, franchisees, facility
3 owners and facility operators, of the sites listed on Exhibit A ("Covered Defendant Parties").

4 This Final Judgment is subject to, and expressly conditioned upon, the following
5 exceptions and limitations: (a) this Final Judgment shall not operate as a release, dismissal or
6 retraxit as to any party not specifically identified as a Plaintiff in this lawsuit or one of the
7 Covered Defendant Parties; (b) Plaintiff's causes of action against Defendant Lyondell Chemical
8 Company ("Non-Released Parties"), as set forth in the First Amended Complaint or any future
9 amendments to the First Amended Complaint, shall not be affected by this Final Judgment; (c) it
10 is not the intent of Plaintiff to dismiss, release, discharge or diminish Plaintiff's claims and actions
11 against the Non-Released Parties, including Lyondell Chemical Company; (d) Plaintiff would not
12 be entering into this stipulated Final Judgment if Plaintiff knew or suspected that the effect of the
13 judgment would be to release, dismiss or discharge Plaintiff's actions or claims as against the
14 Non-Released Parties; (e) Plaintiff does hereby expressly preserve the Plaintiff's actions and
15 claims against the Non-Released Parties; and (f) this Final Judgment shall not operate as a
16 release, dismissal or retraxit with respect to any of Settling Defendant's obligations arising under
17 this Final Judgment, including, but not limited to, Settling Defendant's obligation for payment of
18 costs of investigation and litigation under Section 3 above, the implementation of and compliance
19 with the Plume Delineation Program set forth in Sections 4.0 through 4.10 above, and injunctive
20 relief as set forth in Sections 5.0 through 5.6 above.

21 The release set forth in this Section 6.0 shall become effective upon Settling Defendant's
22 full payment of the amount specified in Section 3 above by the deadline specified in Section 3
23 above; provided, however, that Plaintiff shall retain the right to enforce Settling Defendant's full
24 compliance with all the provisions of this Final Judgment pursuant to Section 6.3 below.

1 As used herein, "Affiliate" means a person or entity that directly, or indirectly through one
2 or more intermediaries, controls, or is controlled by, or is under common control with, the person
3 or entity specified.

4 6.1 Subject to the exceptions and limitations set forth hereinabove in Paragraph 6.0,
5 this Final Judgment also constitutes a release from any known or unknown, past or present,
6 claims, violations, or causes of action that were or could have been asserted in the First Amended
7 Complaint by Plaintiff against the Covered Defendant Parties with regard to: any and all existing
8 or potential demands, causes of action, equitable or legal claims, obligations, damages, losses,
9 fines, penalties and liabilities related to underground storage tank systems, the unauthorized
10 release of petroleum product, or additive or constituent of such petroleum product (including but
11 not limited to TPH, BTEX, MTBE and other fuel oxygenates), the use of MTBE and/or other fuel
12 oxygenates in gasoline, or any alleged failure to assess, remediate, or otherwise take corrective
13 action in response to any such unauthorized release, at the sites listed in Exhibit A, whether
14 asserted or unasserted, or known or unknown, arising out of or connected with any act, cause,
15 matter, or thing stated, claimed, alleged, or that could have been alleged in any pleading, records,
16 or other papers filed in this lawsuit or that may be based upon, related to or connected with any of
17 the matters referred to in any such pleadings, records, or other papers.
18
19
20

21 The release in this Section 6.1 is subject to all the exceptions and limitations set forth in
22 Section 6.0 above, and to all the other provisions contained in this Final Judgment setting out
23 Settling Defendant's obligations hereunder, including, but not limited to Sections 4.0 through
24 4.10 and 5.0 through 5.6 above. The release in this Section 6.1 does not include future violations
25 relating to the facilities listed in Exhibit A.
26
27
28

1 underground storage tank regulations, and any other applicable laws, statutes, and regulations,
2 and any directive or order of a regulatory agency pursuant to such laws and regulations.

3 6.7 This Final Judgment supersedes all previous negotiations and agreements and
4 constitutes the entire Final Judgment between or among the parties, and no oral statement or prior
5 written material not specifically incorporated herein shall be of any force or effect.

6
7 OFFICE OF THE ORANGE COUNTY DISTRICT
ATTORNEY

8 By Tony Rackauckas
9 Tony Rackauckas
10 Attorneys for Plaintiff The People of
The State Of California

11
12 Approved as to Form:

13 ROBINSON, CALCAGNIE & ROBINSON

14 By Mark P. Robinson, Jr.
15 Mark P. Robinson, Jr.
16 Attorneys for Plaintiff The People of
The State Of California

17 LOPEZ, HODES, RESTAINO, MILMAN &
18 SKIKOS

19 By Ramon Rossi Lopez
20 Ramon Rossi Lopez
21 Attorneys for Plaintiff The People of
The State Of California

22 THRIFTY OIL CO.

23 By Barry W. Berkett
24 Barry W. Berkett
25 Executive Vice President

26 Approved as to Form:

27 LAW OFFICES OF MARK B. GILMARTIN

28 By Mark B. Gilmartin
Mark B. Gilmartin
Attorneys for Settling Defendant

ORDER

It appearing to the Court that the Plaintiff and Settling Defendant have stipulated and consented to the entry of this Final Judgment, and the Court having considered the matter, the pleadings, and this stipulation, and **GOOD CAUSE APPEARING, IT IS HEREBY ORDERED, ADJUDGED AND DECREED THAT JUDGMENT BE ENTERED ACCORDINGLY. IT IS SO ORDERED.**

Dated: _____

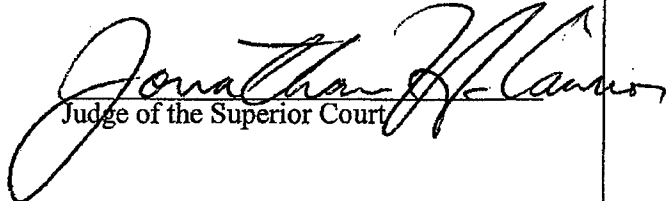

Judge of the Superior Court

EXHIBIT 7



Jan 23 2006
5:27PM

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

-----	X	
In re: Methyl <i>tertiary</i> Butyl Ether ("MtBE")	:	Master File No. 1:00-1898
Products Liability Litigation	:	MDL No. 1358 (SAS)
	:	
	:	The Honorable Shira A. Scheindlin
This Document Relates To:	:	
<i>Orange County Water District v. Unocal</i>	:	
<i>Corporation, et al.</i> , Case No. 04 Civ. 4968	:	
(SAS).	:	
	:	
	:	
-----	X	

**DEFENDANTS' MEMORANDUM OF LAW IN SUPPORT OF MOTION FOR
SUMMARY JUDGMENT OF PLAINTIFF'S CLAIMS BASED ON PLAINTIFF'S
LACK OF COGNIZABLE INTEREST**

has been damaged as a “direct and proximate result of the nuisance” caused by Defendants, and its “injury is separate and distinct from that of the public.” (SAC, ¶¶ 98, 100).

This Court has already determined that the OCWD Act confers upon OCWD standing to pursue its public nuisance claim against defendants. (*See* 6/22/05 Opinion and Order, at p. 21.) However, OCWD’s discovery responses confirm that, as a substantive matter, it has no viable nuisance claim under California law. Indeed, OCWD’s “nuisance” allegations, as pleaded, represent nothing more than a products liability-based claim against the manufacturers, refiners and suppliers of MTBE and TBA, with a nuisance label attached.

D. OCWD’s Trespass Claim Fails To Allege An Invasion To A Possessory Interest In Land.

In support of the damages sought by its trespass claim, OCWD alleges that the MTBE and/or TBA contamination of “groundwaters within the District . . . requires investigation, remediation, abatement, and/or treatment. [OCWD] has engaged, is engaging and will engage, in remediation, abatement, investigation and/or treatment programs and/or in securing replacement water supplies, and has thereby sustained . . . damages.” (SAC, ¶ 90.) As discussed above, OCWD does not own any water production wells. OCWD also does not own the groundwater within the district and has not identified any possessory interest in land that has been impaired or invaded by Defendants. (Schrader Decl., Ex. 2, Request No. 3.)

III. STANDARD OF REVIEW

To prevail on summary judgment, a defendant must show the absence of any disputes regarding facts for which it carries the burden. FRCP 56(c) (“The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file . . . show that there is no genuine issue as to any material fact”); *Celotex Corp v. Catrett*, 477 U.S. 317, 325 (1986).

Defendants' use of MTBE and/or TBA within the boundaries of OCWD has not caused any legally cognizable personal or property damage to OCWD. Accordingly, defendants respectfully request that the Court dismiss OCWD's strict liability, negligence, nuisance, trespass and declaratory relief claims as to defendants.

Dated: January 23, 2006

Respectfully submitted,

By: 

David L. Schrader (DS7700)
MORGAN, LEWIS & BOCKIUS LLP
300 South Grand Avenue
Twenty-Second Floor
Los Angeles, CA 90071-3132
213.612.2500

*Counsel for Defendants Chevron U.S.A.
Inc., ChevronTexaco Corporation,
ChevronTexaco Products Company
(formerly known as Chevron Products
Company) and Chevron Chemical
Company,*

and

*On behalf of each Defendant identified on
Attachment A*

ATTACHMENT A
Motion for Summary Judgment
Defendants Joining in Motion

Atlantic Richfield Company
BP Products North America Inc.
BP West Coast Products LLC
Chevron U.S.A. Inc.
Chevron Chemical Company
ChevronTexaco Corporation
ChevronTexaco Products Company (formerly known as Chevron Products Company)
ConocoPhillips Company
Equilon Enterprises LLC
Exxon Mobil Corporation
ExxonMobil Oil Company
Shell Oil Company
Tesoro Petroleum Corporation (k/n/a Tesoro Corporation)
Tesoro Refining and Marketing Company, erroneously named as Tesoro Refining and
Marketing Company, Inc.
Texaco Refining and Marketing Inc.
Tosco Corporation
Ultramar Inc.
Union Oil Company of California
Unocal Corporation
Valero Refining Company – California
Valero Marketing and Supply Company

EXHIBIT 8



**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

**In re: Methyl Tertiary Butyl Ether ("MTBE")
Products Liability Litigation**

**Master File No. 1:00-1898
MDL 1358 (SAS)
M21-88**

This Document Relates To:

*Orange County Water District v. Unocal Corp., et al.,
No. 04 Civ. 4968*

EXPERT REPORT OF STEPHEN W. WHEATCRAFT, Ph.D.

Wheatcraft & Associates
Reno, Nevada

Stephen W. Wheatcraft

June 23, 2011

Signature

Date

career, I have had more than ten million dollars of sponsored research from the National Science Foundation, the U.S. Environmental Protection Agency and the U.S. Department of Energy, among others. From 2001 to present, I have been the President of Wheatcraft and Associates, Ltd., a consulting firm that specializes in litigation support for cases involving groundwater contamination. I have been involved on a consulting basis in litigation support for about 22 years. In 2009, I was invited to join the faculty as a Visiting Professor at the University of Pierre and Marie Curie (UPMC) in Paris, France. I accepted this position and spent the month of September, 2010 at the UPMC working on research in highly fractured groundwater systems. For a complete statement of qualifications and list of publications see also curriculum vitae of Stephen W. Wheatcraft, Ph.D. included as Attachment A to this report.

2. List of Cases Expert Testimony was Provided During in Past Four Years

Within the past four years, I have testified as an expert witness regarding contaminant flow in aquifers in the following litigations:

Crescenta Valley Water District v. Mobil Corporation, et al., MDL No. 1358, Master File No. 1:00-1898 Case No. 07 Civ. 9453;

Employers Insurance of Wausau, A Mutual Company v. California Water Service Company (a California corporation), Case No. C06-03002 RMW (PVT);

Tonneson, et al., v. Exxon Mobil Corporation, et al., MDL No. 1358, Master File No. 1:00-1898 Case No. 03 Civ. 8248;

Hawaii Water Service Company, Inc., v. The Dow Chemical Company, et al., Civil No. CV 04-1-0036(1);

City of Modesto Redevelopment Agency v. The Dow Chemical Company, et al., Case No. 999643;

D.J. Nelson, Trustee for the D.J. Nelson Trust dba Fruitridge Vista Water Company v. Atlantic Richfield Company, Case No. 02AS00535; and

City of Redlands v. Shell Oil Co., et al., Case No. SCVSS120627.

For a complete list of cases I have worked on see also curriculum vitae of Stephen W. Wheatcraft, Ph.D., included as Attachment A to this report.

3. Statement of Compensation

I receive \$300 per hour compensation for my services for deposition and trial testimony in this action.

4. Summary of Opinions

The purpose of this expert report is to explain the methodology employed in constructing and running groundwater flow and MTBE transport models, and to provide an opinion regarding the results of these models. I was asked to determine whether any releases of MTBE gasoline from 34 pre-selected stations had or would reach drinking water wells within Orange County Water District's service area. I was also asked to provide an opinion as to the mobility, fate and transport and persistence of any MTBE that was released within the Orange County Water District service area. My opinions are as follows:

1. A significant amount of MTBE has been released to groundwater within the Orange County Water District's service area.
2. MTBE was likely in groundwater for years before any sampling for MTBE occurred.
3. This MTBE, if not remediated, will impact water production wells in OCWD's service area. MTBE has already been detected in a number of wells.
4. Groundwater remediation at the focus plume stations I reviewed has not prevented off-site migration of MTBE.
5. At the stations I reviewed, MTBE was in groundwater for years before groundwater remediation was initiated. At most stations, MTBE was in groundwater for more than a decade before groundwater remediation began.
6. The average time from known release to the start of remediation is 11 years, and the longest time between known release and start of remediation is 22.5 years.
7. MTBE is highly mobile and persistent in groundwater and groundwater is continuously in motion. As a consequence, MTBE released at the focus plume stations would have begun migrating off site as soon as it entered groundwater.
8. The MTBE transport model predicts (details are in Appendices B and D):
 - a. 190 district production wells exceed 0.2 ug/l MTBE after 10 years
 - b. 19 additional district production wells exceed 0.2 ug/l MTBE after 20 years
 - c. 28 additional district production wells exceed 0.2 ug/l MTBE after 30 years
 - d. 19 additional district production wells exceed 0.2 ug/l MTBE after 40 years
 - e. 108 district production wells exceed 5.0 ug/l MTBE after 10 years
 - f. 26 additional district production wells exceed 5.0 ug/l MTBE after 20 years
 - g. 10 additional district production wells exceed 5.0 ug/l MTBE after 30 years
 - h. 11 additional district production wells exceed 5.0 ug/l MTBE after 40 years
9. Clay layers within the OCWD service area will not prevent MTBE from migrating vertically down to deeper aquifers. Clay layers slow, but do not stop downward migration. In addition, clay layers within OCWD's service area have been perforated by numerous wells that act as conduits to deeper aquifers.

faster than the TVD solver by a factor of 30, but generates larger amounts of numeric dispersion. Through sensitivity analysis, the FD solution more closely mimics TVD output if longitudinal dispersivity is reduced substantially. A value of 10 feet is used for longitudinal dispersivity as a base-case when using the FD solver.

A selection of MTBE breakthrough curves, or concentrations over time at a single location, for the sensitivity analysis are provided in Attachment C. These breakthrough curves highlight differences in MTBE timing and magnitude due to changes in input parameters defined in Table 1. While all parameters investigated in the sensitivity analysis proved influential on model output, several parameters are defined from previous studies (e.g. HK, VK, α_L) and further adjustment is not warranted. In addition, adjustment of hydraulic conductivity parameters HK and VK causes poor predictions in water levels and at very low input values (factor of 0.1) numeric convergence does not occur. Model sensitivity to TRPV shows that the number of observations correctly modeled as BDL improves with a TRPV value equal to 0.01, but in doing so, significantly under predicts any observed MTBE ADL. Therefore, a ratio of vertical transverse to horizontal dispersivity is left at 0.1 (or 10%). Retardation set at 1.4 is performed to compare importance of retardation on model output compared to other input parameters. Adding retardation lowers and delays MTBE concentrations in all circumstances. Porosity is not as influential on transport as HK and α_L , but variability and uncertainty in porosity make it a good candidate for calibration. Porosity is adjusted to the high values given in Table 5 to help define MTBE movement. The approach taken is to minimize the number of input parameters adjusted in calibration while still capturing the observed MTBE behavior.

13.1. Transport Model Performance

Model performance is based on how well predicted MTBE concentrations match observed MTBE concentrations at numerous monitoring and production wells. Most MTBE samples collected in the TMR domain fall below the analytic detection limit. In other words, MTBE while existing in large quantities in the semi-perched zone as witnessed in gas station monitoring wells, has not reached many observation locations. However, MTBE has been observed in 55 wells, several of which are screened only at depth in the Upper Rho and Main aquifers (e.g. MCWD-8, MCWD-9, IRWD-13, IRWD-16, FV-11). Therefore, MTBE is already moving out of the semi-perched zone, or zone of MTBE source, and reaching great depths.

Results show that the MTBE transport model is able to replicate nearly 95% of the data observed BDL. Breakthrough curves for district production wells are provided in Appendix B. Modeled curves show that most MTBE reaches monitoring sites after the period of data collection.

13.2. Transport Model Results

The MTBE transport model predicts that a total of 155 district production wells will be contaminated with MTBE above 5 ug/l within the next 50 years. It further predicts that 256 district production wells will be contaminated above 0.2 ug/l within the next 50 years. The breakdown by decade is as follows:

- a. 190 district production wells exceed 0.2 ug/l MTBE after 10 years

- b. 19 additional district production wells exceed 0.2 ug/l MTBE after 20 years
- c. 28 additional district production wells exceed 0.2 ug/l MTBE after 30 years
- d. 19 additional district production wells exceed 0.2 ug/l MTBE after 40 years
- e. 108 district production wells exceed 5.0 ug/l MTBE after 10 years
- f. 26 additional district production wells exceed 5.0 ug/l MTBE after 20 years
- g. 10 additional district production wells exceed 5.0 ug/l MTBE after 30 years
- h. 11 additional district production wells exceed 5.0 ug/l MTBE after 40 years

Appendix B provides detailed breakthrough curves for all district production wells. Appendix C provides detailed information regarding first date above 0.2 and 5 ug/l, peak MTBE value, along with date of peak value, and dates that the wells go below 0.2 and 5 ug/l during the model simulation period. Appendix D is a summary of specific district production wells that exceed 0.2 ug/l and 5 ug/l after 10, 20, 30 and 50 years.

EXHIBIT 9

**MINUTES OF REGULAR MEETING
BOARD OF DIRECTORS, ORANGE COUNTY WATER DISTRICT
March 23, 2005, 5:00 p.m.**

President Anthony called to order the March 23, 2005 regular meeting of the Orange County Water District Board of Directors at 5:00 p.m. at the District office. Following the Pledge of Allegiance to the Flag, the Secretary called the roll and reported a quorum as follows:

Directors

Philip Anthony
Wes Bannister (not present)
Kathryn Barr
Denis Bilodeau
Paul Cook
Richard Chavez
Jan Debay
Brett Franklin (not present)
Shawn Nelson
Roger Yoh

Staff

Virginia Grebbien, General Manager
John Ramirez, Acting General Counsel
Janice Durant, District Secretary
Shivaji Deshmukh, Roy Herndon,
John Kennedy, Sharon, Koike, Mike Markus,
Chuck Steinbergs, Nira Yamachika

Others in attendance:

Thom Coughran – City of Santa Ana
Greg Heiertz– Irvine Ranch Water District
Howard Johnson – City of Huntington Beach
Jim Atkinson, Bob McVicker - Mesa Consolidated Water District
Bob Kellison – City of Fountain Valley
David Allen, Don Calkins – City of Anaheim
Keith Lyon - Municipal Water District of Orange County
Lonnie Curtis – Southern California Water Company

EMPLOYEE-OF-THE-MONTH AWARD

The Board presented the February Employee of the Month award to Communications Specialist Rebecca Long

PUBLIC HEARING

1. **Public Hearing on 2003-04 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization**
-

President Anthony called to order the public hearing on the 2003-04 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization for the water year ending June 30, 2004. Principal Engineer Chuck Steinbergs provided a summary of findings of the groundwater conditions, noting that groundwater production totaled 284,621 acre-feet (AF); groundwater stored in OCWD's basin decreased by 7,163 AF for the 2003-04 water year; the accumulated overdraft on June 30 of the 2003-04 water year was 400,000 af; and the projected

3/23/05

accumulated overdraft on June 30 of the current 2004-05 water year is to range from 339,000 AF to 360,000 AF. Mr. Steinbergs also reviewed the water supply and basin utilization findings. President Anthony then opened the hearing for public comment and, there being no persons present who wished to present testimony, the hearing was declared closed.

ITEMS TOO LATE TO BE AGENDIZED

General Manager Virginia Grebbien advised of an event that transpired subsequent to the posting of tonight's Agenda that impacts both the District's MTBE litigation (OCWD v. Unocal Corporation) and volatile organic compound (VOC) contamination litigation (OCWD v. Northrop Corporation). She recommended that the Board adjourn to Closed Session at the close of tonight's meeting to discuss litigation strategy. The following action was then taken adding the item to tonight's Agenda.

Upon motion by Director Debay, seconded by Director Barr, the following resolution was unanimously adopted [10-0].

RESOLUTION NO. 05-3-26

DETERMINING NEED TO TAKE IMMEDIATE ACTION TO CONSIDER EXISTING LITIGATION FILED BY OCWD AGAINST UNOCAL CORPORATION ET AL (MTBE LITIGATION), AND NORTHROP CORPORATION, ET AL (VOC LITIGATION)

WHEREAS, pursuant to Government Code Section 54954.2, the District posted the Agenda for its March 23, 2005 Board meeting at least 72 hours prior to the meeting, *to wit*, on March 18, 2005; and

WHEREAS, after posting of such Agenda, the Board was apprised of the urgency of considering a matter impacting OCWD's litigation strategy in the cases of OCWD v. Northrop, et al and OCWD v. Unocal, et al;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby determine the need to take immediate action to consider the within described matter.

CONSENT CALENDAR

Ms. Grebbien requested the removal of Agenda Item No. 5, *Status Report on State Legislation*, from tonight's Agenda. The balance of the Consent Calendar was approved upon motion by Director Nelson, seconded by Director Barr and carried [107-0], as follows.

2. Approval of Cash Disbursements

MOTION NO. 05-28

APPROVING CASH DISBURSEMENTS

Payment of bills for the period February 22 through March 7, 2005 in the total amount of \$3,135,429.24 is approved/ratified.

3/23/05

20. General Manager's Report

Ms. Grebbien urged the Board to attend a special Board workshop to review the fiscal year 2005-06 budget at 3:00 p.m. on April 6.

21. Adjournment to Closed Session

The Board adjourned to closed Session at 6:20 p.m. as follows:

- CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
[GOVERNMENT CODE SECTION 54956.9(a)] Two cases:

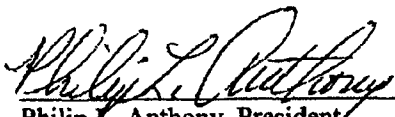
- 1) *OCWD v. Yorba Linda Water District* – Superior Court Case No. 04CC09152
- 2) *ABS Pumps v. OCWD et al* - Superior Court Case No. 04CC09001

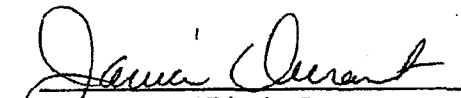
RECONVENE IN OPEN SESSION

The Board reconvened in Open Session at 7:10 p.m. whereupon acting General Counsel John Ramirez advised that as a result of a recommendation of outside counsel, the Board, by virtue of unanimous vote, adopted two resolutions as follows pursuant to Section 40-8(b) of the Water Code which requires the Board to take action with regard to remediation:

- 1) Finding and reaffirming that available funds have been and may continue to be expended to perform investigation, cleanup, abatement, and remedial work to address MTBE contamination, and the threat of MTBE contamination, in the District's service area, and that such expenditures are required by the magnitude of the endeavor and the urgency of prompt action necessary to prevent, abate, and contain threatened and existing MTBE contamination; and
- 2) Finding and reaffirming that available funds have been and may continue to be expended to perform investigation, cleanup, abatement, and remedial work to address VOC contamination in the Forebay area of the District, and that such expenditures are required by the magnitude of the endeavor and the urgency of prompt action necessary to prevent, abate, and contain threatened and existing VOC contamination in the Forebay area.

ADJOURNMENT


Philip L. Anthony, President


Janice Durant, District Secretary